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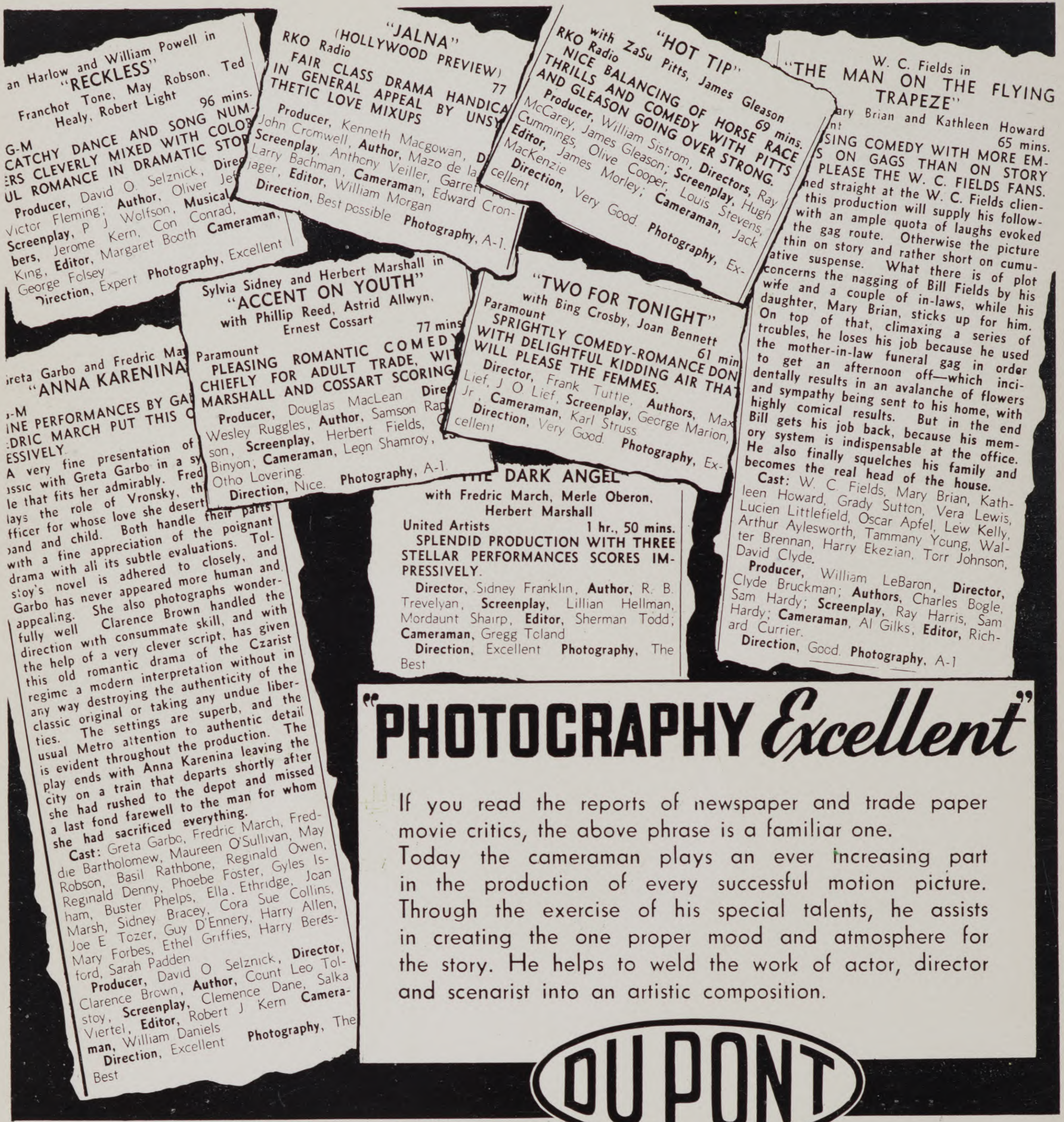
this issue

Color in Still Photography
Arc Lights Used on Large Sets
Walker Accents Mood . . .
Photography in "Midsummer"
the Star
. . . and other features

25c



an Harlow and William Powell in
"RECKLESS"
Franchot Tone, May Robson, Ted
Healy, Robert Light
96 mins.
G-M
CATCHY DANCE AND SONG NUM-
ERS CLEVERLY MIXED WITH COLO
UL ROMANCE IN DRAMATIC STO
Producer, David O. Selznick, **Dire**
Victor Fleming; **Author**, Oliver Je
Screenplay, P J Wolfson, **Musical**
bers, Jerome Kern, Con Conrad,
King, **Editor**, Margaret Booth **Cameraman**,
George Folsey
Direction, Expert **Photography**, Excellent

"JALNA"
(HOLLYWOOD PREVIEW)
RKO Radio
77
FAIR CLASS DRAMA HANDICA
IN GENERAL APPEAL BY UNSY
THETIC LOVE MIXUPS
Producer, Kenneth Macgowan, **D**
John Cromwell, **Author**, Mazo de la
Screenplay, Anthony Veiller, Garrett
Larry Bachman, **Cameraman**, Edward Cron-
jager, **Editor**, William Morgan
Direction, Best possible **Photography**, A-1.

"HOT TIP"
with ZaSu Pitts, James Gleason
RKO Radio
69 mins.
NICE BALANCING OF HORSE RACE
THRILLS AND COMEDY WITH PITTS
AND GLEASON GOING OVER STRONG.
Producer, William Sistrom, **Directors**, Ray
McCarey, James Gleason; **Screenplay**, Hugh
Cummings, Olive Cooper, Louis Stevens,
Editor, James Morley; **Cameraman**, Jack
MacKenzie
Direction, Very Good. **Photography**, Ex-
cellent

W. C. Fields in
"THE MAN ON THE FLYING
TRAPEZE"
ary Brian and Kathleen Howard
nt
65 mins.
SING COMEDY WITH MORE EM-
S ON GAGS THAN ON STORY
PLEASE THE W. C. FIELDS FANS.
ned straight at the W. C. Fields clien-
this production will supply his follow-
with an ample quota of laughs evoked
the gag route. Otherwise the picture
thin on story and rather short on cumu-
ative suspense. What there is of plot
concerns the nagging of Bill Fields by his
wife and a couple of in-laws, while his
daughter, Mary Brian, sticks up for him.
On top of that, climaxing a series of
troubles, he loses his job because he used
the mother-in-law funeral gag in order
to get an afternoon off—which inci-
dentally results in an avalanche of flowers
and sympathy being sent to his home, with
highly comical results. But in the end
Bill gets his job back, because his mem-
ory system is indispensable at the office.
He also finally squelches his family and
becomes the real head of the house.
Cast: W. C. Fields, Mary Brian, Kath-
leen Howard, Grady Sutton, Vera Lewis,
Lucien Littlefield, Oscar Apfel, Lew Kelly,
Arthur Aylesworth, Tammany Young, Wal-
ter Brennan, Harry Ekezian, Torr Johnson,
David Clyde.
Producer, William LeBaron, **Director**,
Clyde Bruckman; **Authors**, Charles Bogle,
Sam Hardy; **Screenplay**, Ray Harris, Sam
Hardy; **Cameraman**, Al Gilks, **Editor**, Rich-
ard Currier.
Direction, Good. **Photography**, A-1

Sylvia Sidney and Herbert Marshall in
"ACCENT ON YOUTH"
with Phillip Reed, Astrid Allwyn,
Ernest Cossart
77 mins
Paramount
PLEASING ROMANTIC COMEDY
CHIEFLY FOR ADULT TRADE, WI
MARSHALL AND COSSART SCORING
Producer, Douglas MacLean **Dire**
Wesley Ruggles, **Author**, Samson Rap
son, **Screenplay**, Herbert Fields,
Binyon; **Cameraman**, Leon Shamroy,
Otho Lovering.
Direction, Nice. **Photography**, A-1.

"TWO FOR TONIGHT"
with Bing Crosby, Joan Bennett
Paramount
61 min
SPRIGHTLY COMEDY-ROMANCE DON
WITH DELIGHTFUL KIDDING AIR THA
WILL PLEASE THE FEMMES.
Director, Frank Tuttle, **Authors**, Max
Lief, J O. Lief, **Screenplay**, George Marion,
Jr., **Cameraman**, Karl Struss.
Direction, Very Good. **Photography**, Ex-
cellent

reta Garbo and Fredric Ma
"ANNA KARENINA
-M
INE PERFORMANCES BY GA
DRIC MARCH PUT THIS C
ESSIVELY.
A very fine presentation of
assic with Greta Garbo in a sy
le that fits her admirably. Fred
lays the role of Vronsky, th
fficer for whose love she desert
band and child. Both handle their parts
with a fine appreciation of the poignant
drama with all its subtle evaluations. Tol-
stoy's novel is adhered to closely, and
Garbo has never appeared more human and
appealing. She also photographs wonder-
fully well. Clarence Brown handled the
direction with consummate skill, and with
the help of a very clever script, has given
this old romantic drama of the Czarist
regime a modern interpretation without in
any way destroying the authenticity of the
classic original or taking any undue liber-
ties. The settings are superb, and the
usual Metro attention to authentic detail
is evident throughout the production. The
play ends with Anna Karenina leaving the
city on a train that departs shortly after
she had rushed to the depot and missed
a last fond farewell to the man for whom
she had sacrificed everything.
Cast: Greta Garbo, Fredric March, Fred-
die Bartholomew, Maureen O'Sullivan, May
Robson, Basil Rathbone, Reginald Owen,
Reginald Denny, Phoebe Foster, Gyles Is-
ham, Buster Phelps, Ella Ethridge, Joan
Marsh, Sidney Bracey, Cora Sue Collins,
Joe E Tozer, Guy D'Ennery, Harry Allen,
Mary Forbes, Ethel Griffies, Harry Beres-
ford, Sarah Padden
Producer, David O Selznick, **Director**,
Clarence Brown, **Author**, Count Leo Tol-
stoy, **Screenplay**, Clemence Dane, Salka
Viertel, **Editor**, Robert J Kern **Camera-
man**, William Daniels
Direction, Excellent **Photography**, The
Best

THE DARK ANGEL
with Fredric March, Merle Oberon,
Herbert Marshall
United Artists 1 hr., 50 mins.
SPLENDID PRODUCTION WITH THREE STELLAR PERFORMANCES SCORES IMPRESSIVELY.

Director, Sidney Franklin, **Author**, R. B. Trevelyan, **Screenplay**, Lillian Hellman, Mordaunt Shairp, **Editor**, Sherman Todd; **Cameraman**, Gregg Toland

Direction, Excellent **Photography**, The Best

"PHOTOGRAPHY *Excellent*"

If you read the reports of newspaper and trade paper movie critics, the above phrase is a familiar one.
Today the cameraman plays an ever increasing part in the production of every successful motion picture. Through the exercise of his special talents, he assists in creating the one proper mood and atmosphere for the story. He helps to weld the work of actor, director and scenarist into an artistic composition.

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Philip M. Chancellor, A.S.C.

Practical

EVERY system of natural-color photography consists fundamentally of a means of separating the image into black-and-white images selectively filtered to represent the primary color components, and then recombining the resultant positive prints, colored either additively or subtractively, to form the final natural-color picture. The actual methods used to do this naturally vary a great deal; but both the end sought, and the underlying principle are always essentially the same.

Probably the earliest successful process for color reproduction is the "screen-plate" principle, which was conceived in 1867, put into practical application in 1892, and is still used with considerable success. It combines a rare theoretical appeal with very beautiful results, though in practice it is generally limited to the production of transparencies. In a conventional three-color, additive process, three separate negatives are made through as many filters, and the three positive transparencies resulting are viewed superimposed, each illuminated through its appropriate filter: in the screen-plate process, the three filters are combined in a mosaic pattern on the plate itself.

The screens fall into two categories: granular and ruled. In the first, the screen is made of a mixture of minute colored grains, and is consequently irregular in form. In the second, the screen is a regular pattern of finely ruled colored lines. Where a granular screen is used, the negative must be reversed to form a positive transparency; where a ruled screen is employed, the regular pattern permits having the screen as a separate unit, so that any number of positive transparencies may be printed, each of which when bound together with a ruled viewing screen will form a perfect color picture.

The granular type of screen is composed of minute starch or resin grains which have been carefully weighed, dyed with the proper, stable dye, mixed in the proper proportions, and flowed upon a plate. They are then rolled under great pressure until the grains overlap each other, and thus form minute filters in a mosaic pattern. The careful weighing and mixing assures that approximately correct proportions of the three colors will be coated and evenly distributed about the plate. The color must be very intense to assure sufficient absorption of light in a coating only 15u in thickness. There are between 3,000,000 to 4,500,000 grains per square inch. In spite of all efforts to mix the grains thoroughly, it is actually impossible to avoid clumps of grains which are sometimes visible under even slight magnification.

The screen itself is a neutral grey when viewed by ordinary transmitted light, and appears white when viewed by light of sufficient intensity. Onto this mosaic screen, a thin panchromatic emulsion is coated. Obviously, in use the plate must be turned around in the holder, and the exposure made through the back or glass side of the plate, so that the screen may come into action. For this reason, the focus must be compensated either by racking the lens inward the thickness of the plate, or by using a compensating filter such as the Zeiss "Dukar."

After exposure, the plate is developed, and then reversed. The reason for this is apparent when we follow the operation of our mosaic screen in filtering the light. Light from a yellow object is absorbed by the blue grains, but passed through the red and green grains, bringing the emulsion behind those colors into a developable condition. Likewise, light from a red object is absorbed by the blue and green grains, but can pass freely through the red grains to affect the silver bromide behind them. If the plate were developed and not reversed, a yellow object would appear blue-violet, while a red object would appear greenish, thus producing a twofold negative, both the monotone renderings and the colors being reversed.

By reversal and redevelopment we correct this condition. By dissolving away portions which appear dense in the negative, and darkening portions which are clear on the negative, we not only produce a positive image, but permit light to pass through the same color areas it originally did. Silver density of varying proportion behind each tiny filtering grain controls the color-transmission, and gives the effect of color over the whole plate.

Theoretically, this is the ideal solution, since the same filters used in taking are also used in viewing. It would be the final solution for pure color were it not for the facts that it is very difficult to reproduce such plates, and absolutely impossible to avoid grouping and clumping of the grains.

Commercially, this process is readily available in the Agfacolor plates and the Lumiere Autochrome plates, and, more recently, coated upon cut, roll and pack film as the Ultra-Agfacolor film and Lumiere Filmcolor.

In order to avoid the clumping inevitable in granular screens, attempts have frequently been made to rule lines on a suitable base, dye these by turns in the three primary

Aspects of Natural-Color Still Photography

by
Philip M. Chancellor, A.S.C., F.R.G.S.

colors, and thus produce a mosaic pattern of unvarying regularity. This is a difficult and expensive matter, but several processes have been developed in which it is achieved with success. Foremost and newest of these regular ruled screens is the Dufaycolor process, which utilizes celluloid film instead of plates. The Dufay screen is ruled through a most complicated process, and provides 500 lines to the inch, forming a geometrical pattern of squares in the three primary colors.

The regular ruled screen is also used in such duplicating processes as the old Paget and Duplex, and the more modern Finlay plates. In these processes, the screen is a separate unit, and as it is of mathematical regularity, any number of positives may be printed from the original negative and when bound with identical color screens, will give perfect duplicate transparencies. Here again, however, there are drawbacks, the most common being parallax and the difficulty of registering the plates.

Transparencies are naturally limited in their application. Aside from the purely physical factors which limit their commercial utility, there are considerable problems in making reproductions from them by the photo-engraving processes used in book and magazine reproduction as there is generally an objectionable conflict between the patterns of the color-plate screen and that used by the engraver. It is possible, however, to make a set of separation negatives from a transparency. The procedure is generally to place the plate in contact with the negative, and to expose it to the light of a standard length of magnesium ribbon, or an arc lamp. Three exposures are made, on three negatives, each exposure being made through a special set of narrow complementary filters. Reproduction from screen plates is at best unsatisfactory if perfect results are desired, for while vigorous tones may be obtained, the softer tones and yellows are almost invariably lost.

Clearly, the ideal in natural-color photography is a colored print on paper, comparable to our conventional black-and-white prints. Until the time when a monopack emulsion like that of the Kodachrome cine process can be adapted to still work, all paper positive still work must work from the foundation of a set of three separation negatives and achieve its end with some method of subtractive printing. Naturally, the best reproductive process is mechanical printing from a set of engraved copper plates: but except for magazine reproduction, this is far too costly, as it necessitates extremely accurate photoengraving and printing. None the less, the same essential principle is employed in most of the really successful processes of securing natural-color prints on paper. For this part of the discussion, we will therefore assume a set of three-color separation negatives to have been made, without inquiring into how these negatives were obtained.

No doubt the most widely known color printing process in use is the superimposed Carbon transfer. The carbon transfer has always been a print of lasting and rare beauty, and it is really unfortunate that the Monochrome Carbon transfer process has been so sadly neglected. Even though carbon is no longer the pigment used, the name still identifies the process, which for our purpose has become the Three-Color Carbon Transfer.

In brief, the process is as follows: gelatin, impregnated with a pigment insoluble in water, is thickly coated onto paper. These sheets are then sensitized with a bichromate sensitizer and, after being dried, are exposed to light under a negative. Those areas which have been acted on by the light have been rendered insoluble, and when the sheet is developed in warm water, these portions remain to form a relief image which, according to its thickness (which would be density in an ordinary print) contain more or less pigment.

These gelatin images are transferred onto a temporary support, and finally to the paper which is to be the base of the finished print. When superimposed in register, and in the three requisite colors, they form a beautiful color print on paper. Carbon tissues can be obtained commercially in an infinite variety of the three colors.

An improvement upon the above outlined process is the present popular Carbro process. This process does not employ the action of light on bichromate to render the gelatin insoluble, but relies rather on a chemical law which concerns the action of finely divided silver on the bichromates, which causes the gelatin in which the silver is embedded to become insoluble. This action was first observed by Farmer in 1889, but was not utilized until 1906 when it was applied to the Carbro process by T. Manly. Three prints are made on bromide paper, and are developed and fixed in the usual manner. After due washing, and while still wet, the prints are put into contact with pigmented tissues and absorb color from these. After a time, the print is carefully removed from the tissue and returned to the water for future use. The tissue is developed in warm water, and the developed tissues are superimposed on the transfer paper to form the colored print.

The next process of note is the imbibition process and its variations. This is essentially the same method by which Technicolor motion picture prints are made. Whereas the Carbon and Carbro processes depend upon the thickness of the gelatin transferred for their colors, the "Ib" processes resort to the use of so-called migratory dyes, which will of their own accord transfer themselves from hardened gelatin into which they cannot penetrate onto a softer gelatin which will receive them. Wall likens the process to the use of a rubber-stamp, which receives coloring matter temporarily, only to transfer it later when brought into contact with an absorbent support.

One of the foremost imbibition processes is the Pinatype process. In this, print plates are made from the original negatives and then immersed in the dye, after which they are placed in contact with the final paper support. Due to the use of aniline dyes, the colors in prints made by this process are brilliant and pleasing.

There are also the various oil processes, such as tri-color bromoil transfer, etc. These processes use a gelatin relief print which is caused to swell by water absorption

(Continued on Page 476)

Joseph Walker, A.S.C.

Accent on Mood---

---is Joseph Walker's Creed

by
Harry Burdick

THAN Joseph Walker, an abler maestro of mechanics and moods cinematographic would be difficult to locate in all Hollywood. No fledgling is he in the arts and crafts, physics and chemistries, of imprisoning visual images on celluloid tape for the edification of commercial customers.

His initial terms of screen servitude were during that historic period when a cameraman, as then termed, toted his own instrument about on well-worn shoulders, made his exposures, developed his negatives, made his prints and in spare time performed odd chores around the studio premises.

A survivor of such hardy pioneering must perforce have a sturdy grounding of fundamentals not always granted to later entrants.

And having repeatedly accomplished the photographically impossible when facilities were crude and abbreviated, it is but a natural sequence that his well-exercised ingenuity should now be achieving noteworthy results with all of today's perfected equipment to work with.

And when equipment is lacking to produce effects he requires, he is wholly competent to design the device required.

Two widely spaced incidents indicate his innate resourcefulness and inventiveness; his situation-saving contributions to production procedure.

Long years ago, his company departed for Mexico for the purpose of lensing its star, Nell Shipman, against the authentic foreign atmosphere of Tijuana. For reasons of their own, customs refused passage ot a truck bearing divers props and sundries.

Walker found himself with a camera and a star, but minus reflectors. And in those days, one could get along without a star but not without reflectors.

Walker forthwith took the situation in hand and went to San Diego for materials with which to fabricate makeshift reflectors. A round of the city unearthed no supply of the needed ingredients. As a final gesture, he called at an old theatrical storage warehouse and there dusted off a rolled "silver screen" from a defunct local cinema palace.

Tightly tucking the treasure under his arm, Walker sped back to the location. His intention was to cut the screen in four, mount each quarter-section on a frame and thus have a quartet of silver reflectors.

Unrolling the screen, instead of the expected silver surface, one reflecting gold was revealed to the amazed Walker.

This was before the advent of panchromatic film. Walker made his reflectors as best he could and proceeded calmly with his shooting. No one was surprised more than he at the results. History records it was the first time gold reflectors were used. Never since has Walker used silver reflectors on a character's face.

But recently, in filming his current "A Feather in Her Hat" with Pauline Lord on Columbia stages, he again stepped into a problem and brought forth a happy solution.

Diffusion has long been a hobby of Walker's. From his experiments in this field he emerged with a device of his own design, a mechanical variable diffuser. He secured letters of patent, ararnged for its manufacture and it found immediate and wide use throughout European studios. He has not exploited its local use.

During the Lord opus a scene called for several items of action and dialogue to be synchronized. Included was a London fog, always present but rolling in with deep density at exactly the proper instant. The mechanics of the scene presented difficulties, particularly handling of the stage fog. Several takes failed to give prescribed results.

So Walker pulled his variable diffuser out of his kit-bag, waved the stage fog away and effectively simulated the fog's incoming within the confines of his camera.

It's a simple device, attached to the front lens and can be manipulated while the camera is operating.

(Continued on Page 477)

Large Sets Call for Arc Lights

by
Hal Mohr, A.S.C.

WORKING on extremely large sets not only makes the problem of lighting more intricate, but by the very increase in physical size, adds new difficulties not encountered in the course of normal production. "Captain Blood," which I am now photographing, is an excellent example of these difficulties. The action consists almost entirely of day exteriors, most of which are being filmed on the stages. In consequence, most of the sets are abnormally large, completely filling the largest available stages. Moreover, many of them are complete, four-sided affairs upon which it is impossible to follow the usual methods of swinging overhead parallels for the lamps: with the exception of a bare minimum of floor units, all of the lamps have had to be placed literally on the roof of the stage. With the lamps so abnormally far from the set, merely to illuminate the set becomes a large order, while to maintain any effective source-lighting—especially in day shots—demands a high intensity of light which must yet come from units of small physical size.

Under the conditions of only a few years ago, such an achievement would be virtually impossible. Our equipment and materials would have been inadequate to cope with the physical demands of the situation. Today, thanks to very recent advances in film and lighting equipment, we can meet such a situation assured not merely of adequate, but of really satisfying results. The tremendously increased speed of Super-X film greatly reduces the amount of light needed, and the development of new and more efficient light, like the Incandescent "Solarspot" and especially the new "Hi-Spot" arc recently introduced by Mole-Richardson, minimize both the number and the bulk of the lights needed. To put the matter in a nutshell, six years ago, filming "Broadway," the electrical load on the largest set was over 30,000 Amperes; today, making "Captain Blood" on sets equally as large, we use about 8,000 Amperes, and get better photography. Bear in mind, too, that "Broadway" was photographed on specially hypersensitized film, while "Captain Blood" is being made on regular Super-X!

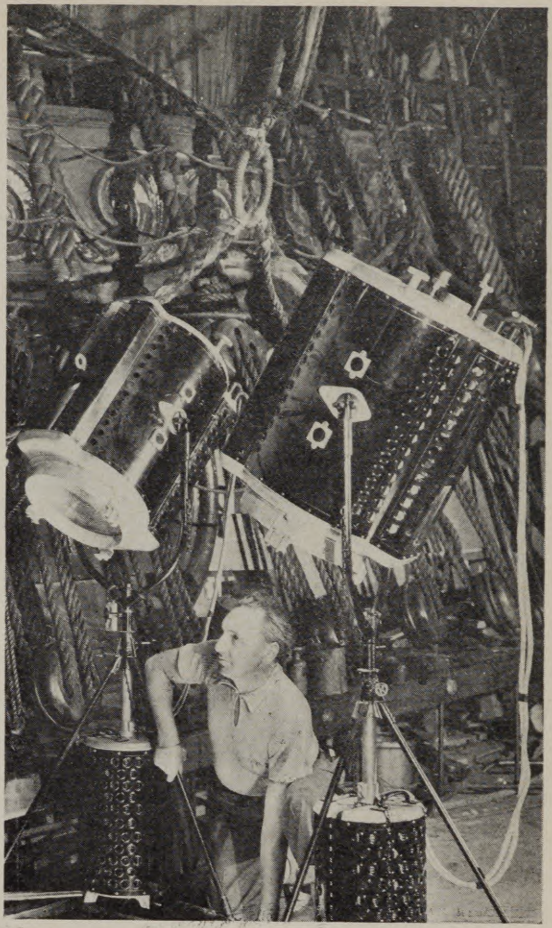
Photo by M. Marigold, A.S.C.
Hal Mohr, A.S.C., examines two of the new "Hi-Spot" arc spotlights. Note grouping of controls at rear of lamp-barrel.

I have never been in favor of mixing arc and incandescent light unnecessarily. With our present-day Panchromatic emulsions, the yellower light of the Mazda seems more perfectly matched under normal conditions, and adding light of any other color can often mislead the Cinematographer. But in special instances like this, where high intensity is required, or where strong source-light effects or definite shadows are needed, the arc is, as always, indispensable. It is worth remembering, too, that in increasing the overall speed of Super-X, the blue speed has been considerably increased, so that a beam of the bluer arc light which may seem insignificant visually, will make a surprisingly strong impression on the film.

In "Captain Blood," however, strong source-lights were absolutely necessary, and the physical requirements of the sets were such that the requisite strength could only be had with arcs. One of our largest sets represented a pirate ship, and to get a strong key light on one side, which would project a well-defined pattern of shadows from the rigging, I used a row of the new Mole-Richardson "Hi-Spot" arcs. The smooth, perfectly controllable beams from these lamps made it possible to line them up on the stage roof, and adjust their rays so that they projected a smooth flood of light very closely comparable to the sunlight they were to imitate. As the beams of these units are free from the damning dark-spots and element shadows of the old 24" Sun Arcs, there was no need to "cheat" to conceal the shadows with props. Since the beams fall off evenly at the edges, they could be arranged very easily to give a solid sheet of light; the actors did not have to be

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Peverell Marley, A.S.C.

Individual Expression Vital In Cinematography

by
C. Rogers

PEVERELL Marley insists everyone has individual expression, whether expressed in creating a hat, a gown, painting a picture, sculpturing, making a salad or a radiator cap.

"Individual expression plays a vital part in photographing," states Peverell Marley, ace cinematographer. "In every artistic endeavor, this fact is realized and the cameraman must be thoroughly convinced of a scene before he can express it perfectly through the eye of the camera."

Each and every cameraman has his own individual method of filming a scene. Any scene at all out of the ordinary would be photographed by ten different cameramen in ten different ways. Therefore, in "Clive of India," the "crossing of the river in the storm" scene; in "Bulldog Drummond," the "London fog" scenes; and in "Three Musketeers," the "fencing" scenes would all be individual expression by different photographers.

Scenes as a whole are the individual expression of the cameraman, and the scenes above mentioned are individually expressed by Pev Marley. The many details that go into making up the whole are far too numerous to mention, but the grand total which is reflected in the rays of light that pass through the lens turn out to be the individual expression of the cameraman.

He has photographed every type and kind of picture. Never in his 14 years as a cinematographer has Pev Marley photographed two identical scenes. By this, he must be on his toes, alert at all times—vitally interested in his work.

Through all his experience, Marley has always been skeptical. One must experiment with new faces. The photographer must put the new face under lights and photograph it at various angles. Lights bring out deficiencies, exaggerate the poorest defect, and yet properly adjusted the same lights will enhance the beauty of a face and change it to photographic perfection. It is experiment and individual expression is then brought out by the cinematographer.

"Our American public idealizes the actor and actress. It is the duty of the cameraman to make them look on the screen as Mr. and Mrs. Public want them to look," said Pev Marley.

Some subjects are photographed with cross-lighting effects; others with full — three-quarters — subdued or highlighted.

"Lighting a Mood" is one of Marley's favorite passions. He realizes that he can accentuate any emotion via the lighting route. By his special trick of subduing lights and with various effects, he can bring the players into a more dramatic mood. By converse methods, a scene can be lighted so that the players screen in a lighter vein.

The cameraman must know that his responsibility is to turn out a smooth, consistent and uniformly well-photographed production. Being well aware of this, and a master in his field, Marley is credited with many of the most successfully photographed productions in the industry.

"Cameramen, like artists, are stylists. Each one has his own individual manner and way of photographing his subjects, and the individualism of the actor or actress must be brought out by the director of photography."

Like a musical composition, every picture has a "key." That "key" must be maintained throughout each and every scene. And this is done by the head cameraman, and not any of his assistants. Through lighting effects and the individual artistry of the cinematographer can perfect pictures be attained.

Pev Marley is a man of details. As soon as he learns what his next assignment is, he gets the script and studies it in detail, and minutely analyzes each character. Then in his mind's eye, he creates the scenes, characters and moods.

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OF ALL the reasons for adopting a new raw film, photographic quality... what the audience sees on the screen... ultimately stands supreme. That explains why the great majority of today's motion pictures are being made on Eastman Super X Panchromatic Negative. Speed, fine grain, versatility... all of these are overshadowed by the fact that Super X gives to the world's screens *quality plus.* Eastman Kodak Co., Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

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PANCHROMATIC NEGATIVE

Photography is the Star in "Midsummer"

by
N. Smith

Photos by M. Marigold

Photos from "Midsummer Night's Dream"

RARELY in the history of the motion picture business has a cameraman received so much acclaim as has Hal Mohr for his photographic achievement in filming Warner Brothers' production of William Shakespeare's "A Midsummer Night's Dream."

Critics of the "trade press" naturally follow the work of the cameramen, but in this case the critics from the daily papers and the magazines all have run out of adjectives in their efforts to tell what a beautiful job of photography has been performed by Mohr. That he has been honored as he has is a pleasure for all cameramen, for photographic recognition has been very stingily given.

"A Midsummer Night's Dream" is a picture that could have been spoiled by the wrong kind of photography. That it has turned out to be an artistic triumph speaks worlds for the art of Mohr. But, unlike many people of the films, Mohr refuses to take all of the credit.

"If Max Reinhart and William Dieterle had not co-operated with me in such magnificent fashion," says Mohr, "we could not have done the job as it was done. Dieterle stopped at nothing in the matter of co-operation, even changing plans for an entire sequence when someone pointed out the advantage of such a change. When you work with directors like these two men you cannot fail to give them good work.

"The greatest share of credit for the photography, however, really should go to William Shakespeare, for he wrote a story that made possible all the pictorial achievements in the film. To my way of thinking, Shakespeare as a writer for the screen is superb. There is no evidence of strained effort to be pictorial, such as the modern writer for the screen so frequently discloses. Shakespeare just let his imagination run riot, and put the job of photographing almost impossible situations right up to the cameraman. In other words, he put the cameraman on his mettle."

So there, a cameraman who is receiving more praise for his art than has ever been accorded a photographer before, refuses to take the bows alone. He says nothing about how he must have been steeped in Shakespeare in order to catch the changing moods and reflect them on a little strip of celluloid. He says nothing about how those moods, by the art of lighting, were blended together in such a manner as to leave the audience absolutely unconscious of the changes. Lap dissolves of moods one might well call them.

Mohr believes that the best photography is the photography that does not call attention to itself. That is what he tried, he says, to put into the camera work on the Shakespeare film. That he has succeeded is a matter of record.

Photographing "A Midsummer Night's Dream" really brought Mohr's greatest dream true—for it brought him a new contract that provides for his services not only as a cameraman, but as a director and a supervisor. Now it would seem that his dream of becoming a big-time director will come true. Mohr has had directorial experience in his long and colorful background.

Born in San Francisco in 1894, Mohr decided very early to get into the film business. At the age of thirteen he got hold of an old projection machine, and out of its parts built a motion picture camera—that worked. He quit school and started filming local news events. Sid Grauman's father was running the Empress Theatre, so he engaged young Mohr to make the news events for his house. His dream of film success was rudely interrupted at this point, for his camera was confiscated by a camera patents company on the grounds of infringement.

(Continued on Page 479)

Actual enlargement from a 35MM. frame made in Alaska by Father Hubbard on Agfa film.

"BEST ON THE MARKET!"

SAYS FATHER HUBBARD

WHILE in Alaska, Bernard R. Hubbard, S. J., the Glacier Priest, shot 100,000 feet of Agfa 35 MM. Superpan Film. Returning home for a lecture tour, he had no time to match the original Agfa print or have duplicate prints made. Here's what Father Hubbard writes:

"I used the original print in 258 lectures, and it's still in better condition for projection than many films sent from film exchanges. I have considered your Agfa negative the best for many years, and now I add my appreciation of your Agfa positive as the best and toughest film on the market."

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LOOKING BACK TEN YEARS

●Jackson J. Rose, A.S.C., has finished filming the Universal production "The Measure of a Man" directed by Arthur Rosson and starring William Desmond. Many beautiful scenes were made at Big Bear Lake.

●E. B. Du Par, A..SC., has signed as chief cinematographer with Stereoscopic Productions of Sacramento, Calif. Du Par's new organization controls patents for attachments to the camera that are said to make everything stereoscopic, and the results are said to be very satisfactory. Du Par is already at work on the first production "Head Over Heels."

●Walter Lundin, A.S.C., is filming "Hubby" Harold Lloyd's latest feature comedy.

●Hans Koenekamp, A.S.C., is again in charge of cinematography for Larry Semon who has resumed the production of comedies.

●L. Guy Wilky, A.S.C., is filming "Locked Doors," William De Mille's latest production for Paramount.

●Ira H. Morgan, A.S.C., is in Tahiti filming the Cosmopolitan production, "Never the Twain Shall Meet." Maurice Tourneur is directing. The cast includes Anita Stewart, Bert Lytell and George Seigman.

●Faxon Dean, A.S.C., is in Birmingham, Ala., for the filming of location scenes for the latest Thomas Meighan production for Paramount.

●George Barnes, A.S.C., is finishing the camera work on the Cosmopolitan production, "Zander the Great" which, starring Marion Davies, is being made at the United Studios, Hollywood.

●Joseph A. Dubray, A.S.C., has completed the Frank Woods production, "The Beauty and the Bad Man." Directed by William Worthington.

●Georges Benoit, A.S.C., has finished the filming of "Heaven on Earth," a Hunt Stromberg production directed by Tom Forman. The cast included Marguerite de la Motte and John Bowers.

●T. D. McCord, A.S.C., is photographing "The Desert Flower" a First National production starring Colleen Moore. Lloyd Hughes has the lead.

●David Abel, A.S.C., is receiving congratulations on his cinematography in the Warner Bros. Production, "Recompense."

●Charles G. Clarke, A.S.C., has begun work on "Without Mercy" a George Melford production for Metropolitan Productions. Among those who will appear before Clark's camera are Dorothy Phillips, Vera Reynolds and Conway Tearle.

●Al Gilks, A.S.C., is filming "The Female," a Sam Wood production for Paramount. Betty Compson is starred.

●Bert Glennon, A.S.C., has completed the camera work on his latest Paramount vehicle co-directed by Frank Urson and Paul Iribe under the supervision of Cecil B. DeMille.

●Homer Scott and Fred Jackman, both A.S.C. members, have been engaged by First National on a special assignment for some intricate cinematographic undertakings. Though a successful director, Jackman is still in demand as a master of cinematographic intricacies, for which he is famous in motion picture production quarters.

●Andre Barlatier, A.S.C., has finished the filming of a Gorman production at Goldwyn.

●James Van Trees, A.S.C., has begun the filming of "Single Wives" an eight reel First National Production starring Corrine Griffith. George Archainbaud is directing.

●Frank B. Good, A.S.C., is completing the camera work on the latest Jackie Coogan production.

●Paul P. Perry, A.S.C., is photographing Jack Pickford's latest production at the Pickford-Fairbanks Studio.

●Arthur Edeson, A.S.C., will photograph "The Lost World" for First National.

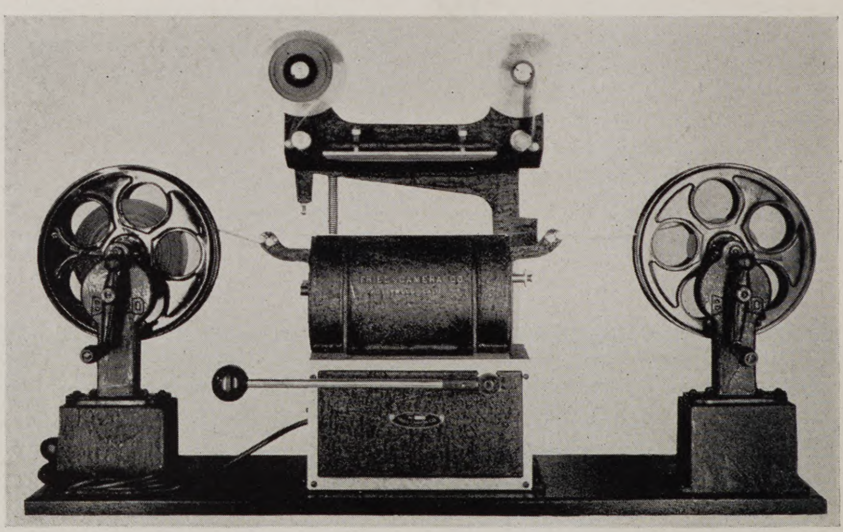
●Sol Polito, A.S.C., is photographing "The Siren of Seville" a Hunt Stromberg production starring Priscilla Dean.

●George Meehan, A.S.C., is filming a Jim Parrott comedy at Fox Studio.

●William Marshall, A.S.C., is shooting Richard Talmadge in a Carlos Production, James Horne directing. The feature is a melodrama with a great deal of whirlwind action so that Billy has plenty of thrills from start to finish.

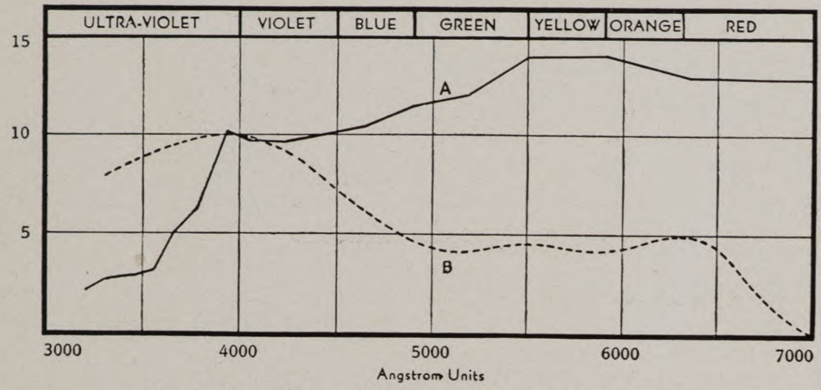
●John S. Stumar, A.S.C., has finished the cinematography on "Wine" a Universal society drama, directed by Louis Gasnier, with Clara Bow, Myrtle Stedman, Huntly Gordon, Robert Agnew, Walter Long and Forrest Stanley in the cast.

●Henry Sharp, A.S.C., has finished "Tiger Thompson," a Hunt Stromberg production starring Harry Carey and directed by Reaves Eason.



The Fried 35mm Light Tester, which can be adjusted to synchronize with the light of any printer. Its simple construction is said to be one of its outstanding features.

BALANCE YOUR LIGHT AT THE SOURCE



Curve A—Energy Distribution from the new 40 ampere Studio Carbon Arc
Curve B—Color Sensitivity of Supersensitive Panchromatic Motion Picture Film

STUDIO lighting that is over-strong in yellow, orange and red must be supplied in excess of actual need in order to obtain the required strength of blue and green. The excess colors can be absorbed by filters to obtain balanced color tones on the negative but the excess heat is absorbed by the actors on the stage—much to their discomfort.

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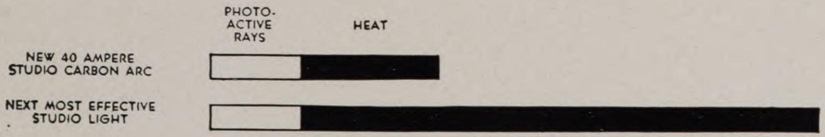

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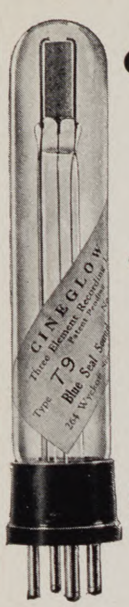

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Practical Aspects of Natural-Color Still Photography

(Continued from Page 467)

in the highlights and proportionally less absorption in the shadows. The inks used in this process are of a type known as greasy inks, and are readily absorbed where there is little water in the gelatin, but are not absorbed as readiy where the gelatin holds more water.

All of these processes are to a greater or lesser degree intricate and expensive. The problems of exact color-balance and registration make the production of good color prints slow, and raise the factor of wastage to a high figure. It is therefore important that some relatively simple method of proofing the three-color separations be available. This is found in the use of Belcolor sheets, which consist of celluloid impregnated with the trichrome dyes. The sheets are sensitized and exposed under the negatives; after fixation, the dye remains only on the dense portions. The sheets are then bound together and make excellent transparencies, which are of great value as color proofs, and as a guide to the engraver while making plates from the negatives.

Reasoning from effect back to cause, we finally come to the intricate process of producing the three separation negatives. The ideal solution, of course, is the method used by the photoengraver in making reproductions of paintings and other still life subjects. This is simply a heavy, solid camera which will not be subject to jar when changing plates or filters. Three separate exposures are made, each through its appropriate filter.

But this is hardly possible when dealing with the normal subjects encountered in studio production. The slip-back camera partially meets this need, as it makes the three exposures, changing plates and filters in rapid succession. Some of these cameras are manually operated, while others are fully automatic. The Raylo, for instance, which appeared briefly some ten or fifteen years ago, may be mentioned as typical of the latter class, though somewhat ahead of its time. In appearance, the Raylo camera was not unlike a DeBrie cine camera. Although large in size, it took miniature-camera sized plates, making the three exposures on a plate about the size of a 45x107mm stereo plate. These plates were supplied in magazines: the magazine was placed in the camera and the mechanism wound. When the release was pressed, the three exposures were made in rapid succession, the mechanism automatically moving the plate, alternating the filters, and compensating the exposure for the filter-factors. Prints were made by enlargement, to any size, upon bichromated gelatin sheets which were superimposed in a special registering machine in the Raylo laboratory.

Another idea which worked well in theory, but did not live long commercially, was the Agfa "Colorsnap" process of a few years ago. In this, roll or pack film was supplied in a tri-pack, with three films and the necessary filters packed together much the same as in the more familiar bipack processes. Prints were made by a modified Pinatype process.

The desideratum obviously is a camera which will permit the operator to make three separate negatives, properly filtered, at a single exposure, through a single lens. The cameras that have been designed to do this are legion; those that actually do it are few indeed. Mirrors or prisms have been placed behind the lens to split the beam, much as in the Technicolor cine cameras; in some designs, two or more lenses are focused on a single mirror, which in turn reflects the image to be photographed. Unless the adjustments in such designs are minutely correct—to less than a ten-thousandth of an inch—a parallax effect will be encountered, or one image will prove minutely larger than the other, and it will be impossible to register the negatives. In addition, there are of course innumerable difficulties in adjusting the exposure and filters so that the three negatives will be of comparable density, in obtaining a lens of proper definition and color-correction which will at the same time have sufficient speed to be usable in spite of the transmission losses in filter and beam-splitter, which reach an aggregate of approximately 45. Naturally, there are several really fine color-cameras on the market, but they are all very delicate and really expensive. Among these may be mentiond the Bermphol, Jos-pe, Vivex, and one or two other makes. Strangely enough, all of them are made in Europe. They are strictly custom-built, being made to order only, and at prices equal to the cost of a fully equipped studio motion picture camera.

Clearly, then, still photographs in natural colors are very definite possibilities: but as yet difficult of attainment, and costly in the extreme. As yet, they have been utilized only in fields where these factors can be safely disregarded. What the volume-production needs of motion picture studio still work might do to these limitations can as yet only be imagined. It is safe to predict, however, that once color stills are engrafted into studio production, new and valuable developments in the technique of natural-color photography will surely result from Hollywood's instinct to overcome all limitations.

Accent on Mood

(Continued from Page 468)

For one so intimately conversant with the mechanics of his profession, Walker has learned to accept them for their true worth and to subject them to his artistry. He uses them not for their own sake but as media to relate the story at hand.

His constant striving is to make his cinematographic productions notable examples of mood. His entire drama, he subscribes, must not deviate from the straight and narrow path of exact mood. He must resist the ever-present temptation toward the cinematographic turpitude of accented photography.

Photography should be striking only when it contributes to the drama's unfolding. It should not be accented; to divert audience interest away from the drama to the photography itself.

To this end, he believes in being not too literal in his work; of leaving all detail possible to the auditorium's imagination for its own interpretation.

His camera filmed "It Happened One Night," which made almost a grand

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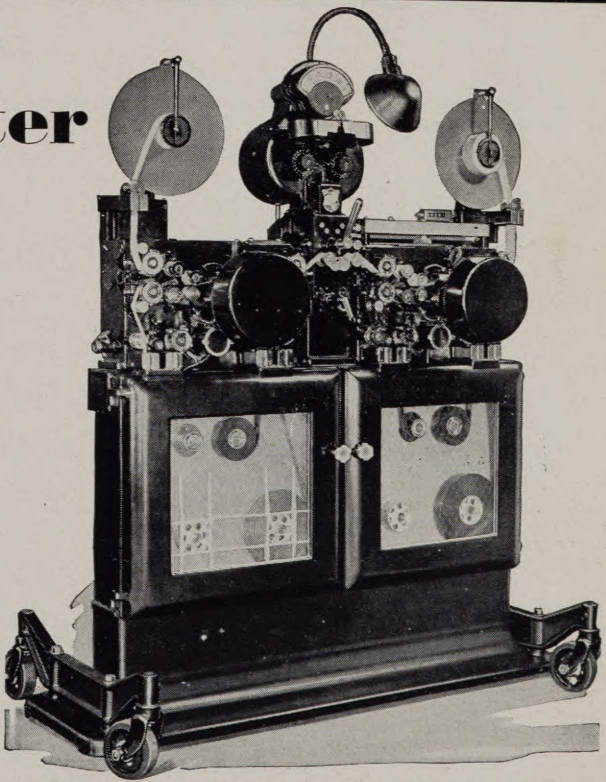

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slam of the recent Academy awards. Indeed, he has officiated cinematographically on all of Director Capra's works for many years. As returns came in from this popular production, Walker has tabulated the varying interpretations placed on specific scenes by audiences of varying classes.

From what he didn't show on the screen, individual viewers of the picture have been able to write in their own preferred meanings. They thus participated more fully in the unfolding drama—they got into the picture and its mood. And enjoyed it the more.

Being that rarity, a fine artist yet utterly practical, he can when commercial considerations intrude, inject accented photography of striking effects, drawing from his deep technical experience for the specified italics.

Out of his long years of experience Walker has evolved his creed of sharing his drama's situations with his audience. With exact definition and maintenance of mood he gains their confidence, makes them believe. By his cinematographic reticence he draws out their own interpretations of screened actions.

It is significant that audiences, for subtle reasons they themselves do not identify, enjoy Walker's pictures to deeper degree. And what is higher tribute to cinematographic ability?

Large Sets Call for Arc Lights

(Continued from Page 469)

warned away from certain areas, lest they be seen to walk out of one beam and into another.

In the same way, photographing other huge sets, such as the stockade, etc., these lamps provided a perfect key-light to represent the strong tropical sunlight of the Spanish Main. Especially in these sequences, the remarkably small size of the "Hi-Spots"—they are hardly as large as the old 80 Amp. rotary condensing-lens spotlights—made it possible to use a large number of them in the very cramped space available. I doubt if it would have been possible to place even one or two Sun Arcs on the stage roof, which was the only place we had for our lights; but we used twenty or thirty "Hi-Spots" at a time up there, and were hardly conscious of them.

The "Hi-Spot" is a companion unit to the popular (incandescent) "Solarspot." It utilizes the same type of lens and a remarkably efficient new arc mechanism. In intensity, it is more than comparable with the 24" Sun Arc, while avoiding all the faulty beam distribution of the mirror type lamp. Compared with the older lens type arc spotlights, it is immeasurably more efficient: considering the improvements in the lens alone, the older lenses worked at f:2.2 or slower, while the new type works at f:1. The beam can be pulled down to less than 8 degrees, or flooded out to well over 40 degrees, at all times maintaining a high intensity.

In the older units, the carbons fed intermittently. This made the light change considerably in both intensity and color at unpredictable intervals during the burning period. In the "Hi-Spot," the carbons feed continuously, and the positive carbon is rotated a good deal faster, maintaining the positive crater in an almost perfectly symmetrical form, and giving a perfectly steady light. In the old types, too, the carbon feed was rather noisy, so that when working close to the microphone, the feed had to be stopped entirely; in the new lamp, tests have shown that the feed can be operated at normal speed within ten feet of the Mike, while when working closer, all that is necessary is to slow the feed slightly.

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lens lamps—whether arc or incandescent—is that at extreme distances, their beams did not have as great carrying power as a mirror lamp. The Fresnel-lensed "Hi-Spot," though it may not be as penetrating as a large mirror arc on a tight beam, is certainly a remarkable advance in this respect. Filming some of the night exterior scenes in the set built to represent the town where much of the action takes place, I have had "Hi-Spots" projecting their beams successfully for more than 150 feet.

It is significant of the real need for modern arc lights in black-and-white production that although these new lamps were designed primarily to replace the old 80-Amp. Rotaries and 24" Sun Arcs in Technicolor photography, they have since their introduction been monopolized by Cinematographers who, like myself, have encountered, in black-and-white productions, situations and problems which only these most modern arcs could solve.

Photography Is the Star

(Continued from Page 472)

Undaunted by the turn of events, Mohr soon connected with Miles Brothers, the first film company in San Francisco. Next he aided in opening the Pacific Film Company, for filming news weekly.

His first photographic work of moment was the filming of "The Last Night of the Barbary Coast," which was Sid Grauman's first motion picture production. In 1913 the first five-reel films appeared, and Mohr photographed such films as "Money," "Salome Jane" and many others.

In 1914 Mohr persuaded his parents to form the Italia American Film Company. Mohr rented an old store and a vacant lot. Then he wrote an original story, "Daughter of the Gods," adapted it for filming, gathered his cast and directed and photographed the piece. He developed his own film and cut it himself. It was a sort of one-man band arrangement. Eventually the picture was completed and was sold for $10,000. He made no salary, but did return a slight profit to his backers.

Mohr landed at Universal as a film cutter in 1915. He co-directed one Ruth Stonehouse picture, and then went with Hal Roach where he directed in shorts such stars as Harold Loyd, Snub Pollard and Bebe Daniels. He also did the camera work.

He went overseas with the army where he remained in the photographic service until the Armistice was signed. The war over he found himself back in Hollywood again filming more and more important pictures. Douglas Fairbanks and Mary Pickford saw his work in a

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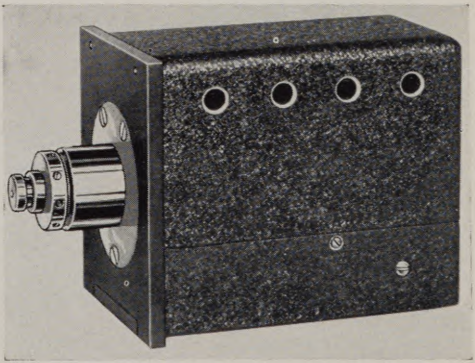

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picture and sent for him. He stayed with them for the next two years. Along the line came such pictures as Von Stroheim's "Wedding March," "Noah's Ark" and others. He made Al Jolson's first film test for "The Jazz Singer," the first Vitaphone talking film.

After three years with Warners, he went to Universal where he did such outstanding films as "Broadway" and "King of Jazz." Then on loan to Warners he did his most outstanding photographic work in the filming of "Outward Bound." That was a picture in which mood as caught by the cameraman meant everything to the success of the film. "State Fair" for Fox was another distinguished piece of work.

And now "A Midsummer Night's Dream," which will probably take from the industry one of its greatest camera artists, for Mohr is destined to direct. Apparently Warner Brothers recognized that when he had finished the filming of the Shakespeare picture, for it was then that they gave him his new contract. But his head has not been turned by success. Quietly, a bit shyly, he still insists that a man named Shakespeare had more to do with it than anyone else.

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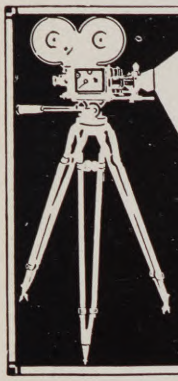

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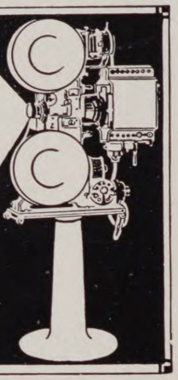

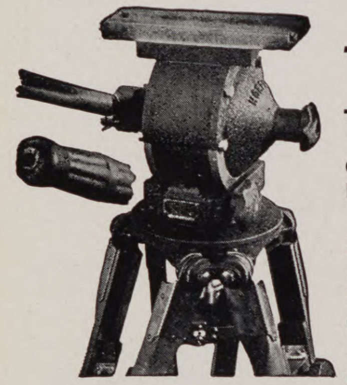

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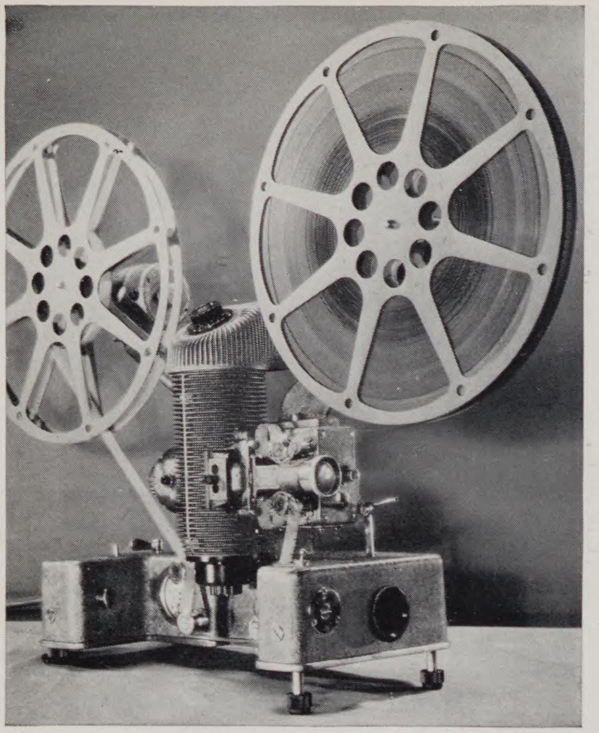

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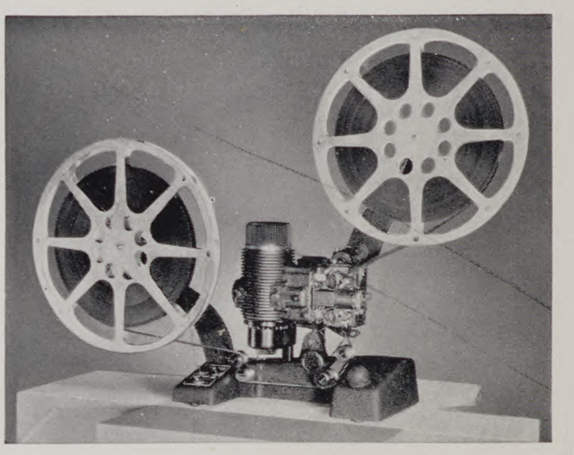

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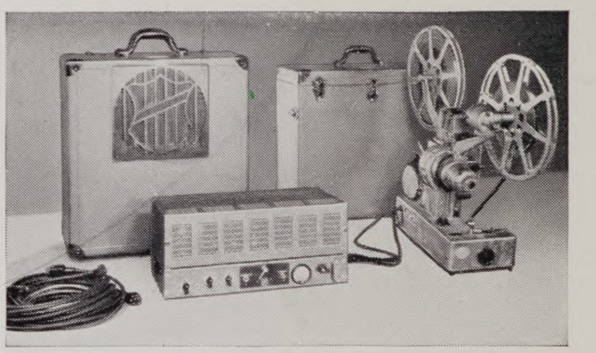

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AMATEUR MOVIES

this issue

- Lighting the Long Shot
- Composition in Pictures
- Homemade Flood Light
- Filming an Eclipse
- Spectacle Lens Macrography
- . . . and other features

NOVEMBER
1935

A WORD TO THE WISE . . .

YOU'LL be shooting indoor movies this winter . . . both by daylight and by Photofloods. And here's a word of advice on how to give those interior shots greater brilliance, depth and detail. . . . Load your camera with Agfa 16 mm. Fine-Grain Superpan Reversible Film.

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AMATEUR MOVIE SECTION

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Next Month . . .

● Karl Barleben, Jr., who has made a reputation for himself in the miniature field, turns to the movie camera to tell us some interesting things to do when making "Snow Pictures."

● J. Belmar Hall will continue his series of articles on composition. Mr. Hall has a background of many years as a successful artist before turning toward the camera for his medium of expression. He speaks authoritatively.

PROFESSIONAL Criticism of the Amateur picture is a part of the service offered by the AMERICAN CINEMATOGRAPHER. Many are not aware of this. Hundreds of pictures have been reviewed this past year by members of the American Society of Cinematographers for the Amateur.

Lighting the Long-Shot

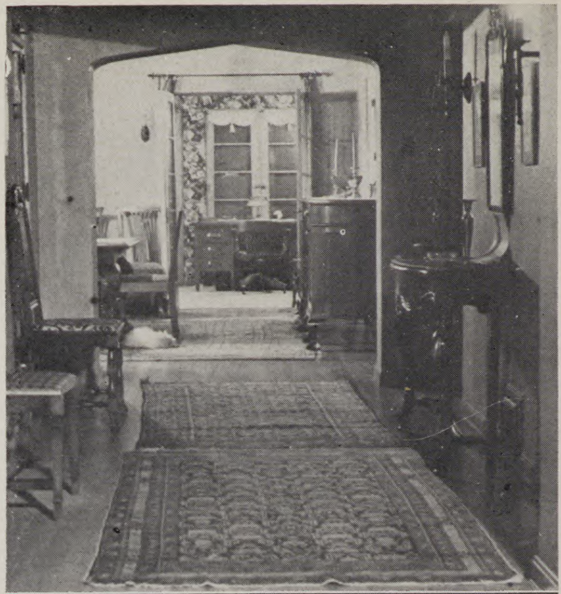
by
Walter Blanchard

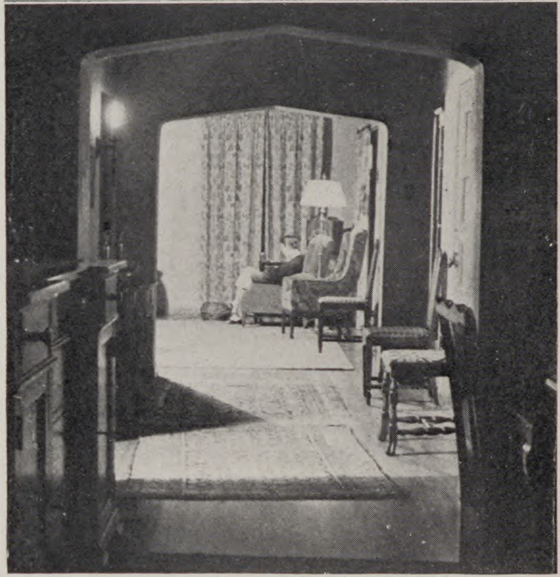
THE real problem in home-movie lighting is the long-shot. So much has been written about close-up lighting that everyone knows how to arrange his lights for the closer scenes. But the long-shot is in itself a bigger problem—and we cinematic pen-pushers have more or less neglected it for the more common topic of portrait lighting.

In lighting a close-up, the subject is the most important factor; lighting reduces itself to a relatively simple matter of putting one lamp on one side of the camera, and another on the other, with one lamp nearer the subject than is the other. This gives an essentially natural lighting, with one side of the face accentuated by the stronger light, and the other moulded in soft shadows.

But in lighting long-shots, the home filmer all too often overlooks the value of shadows, and nervously throws a strong flood of light over the entire picture. No wonder that the result is flat on the screen, without character, charm or naturalness! The first rule for lighting a long-shot should be that both the subject and the background must be lit naturally, accentuated with high-lights and moulded with soft shadows.

Perhaps the simplest lighting set-up for the average long-shot is a simple expansion of the basic close-up lighting. As a rule, this will require six or seven lamps: but some of the lamps used may be of the inexpensive, clamp-on variety, and others may be bridge-lamps fitted with Photoflood globes, so no overly great outlay will be necessary. The two lamps nearest the camera—one on each side—take care of front-lighting the subject, just as in a close-up; one should be a bit farther away than the other, to provide a shadow side. Beyond these units come two more, arranged to cast their beams onto the "set" behind the subject. Beyond these are yet two more lamps whose duty is to illuminate the back wall. All of these front lighting units should be set up in the unbalanced formation, those on one side closer in than those on the other side, to carry out the basic "two-sided" lighting. High up on the back wall—well outside the camera field—a clamp-on light is placed with its beam directed forward and down onto the actor, to provide the back-lighting that makes him stand out from the walls. If there is a wall-fixture in the picture, it should be turned on (using its regular bulbs), so that it will suggest a source from which the back-light will apparently come.





Above: Soft shadows lend naturalness to the long-shot. Note how shadows from chairs make furniture stand out from wall, and highlights on curving objects suggest roundness.
Below: Contrasting planes in lighting for emphasis and depth. Note beam of light from open door at left.

This sort of a set-up is enough to give a good, straightforward long-shot lighting. But it does not by any means begin to take advantage of the possibilities of long-shot lighting. Study the long-shots in the next professional film you see: you will notice a surprising effect of depth. This is often gained by simply contrasting the lighting on the different planes of the picture, so that they stand apart from each other visually. In our simple long-shot, we could for example put diffusers on the two lamps illuminating the back wall. This would soften the light there, so that our actor, strongly lit from front and back, would stand out more clearly. On the other hand, if he is in dark clothes, we could increase the light on the back wall, and more or less silhouette him against a light background: the front-light would give us plenty of detail, however, in the foreground.

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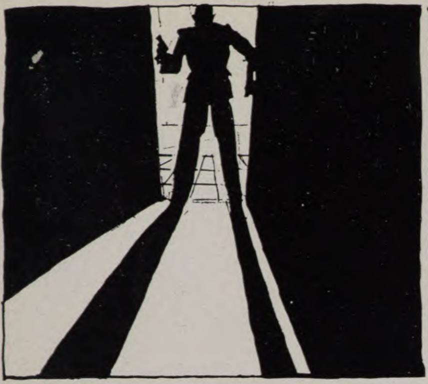

Fig. 1

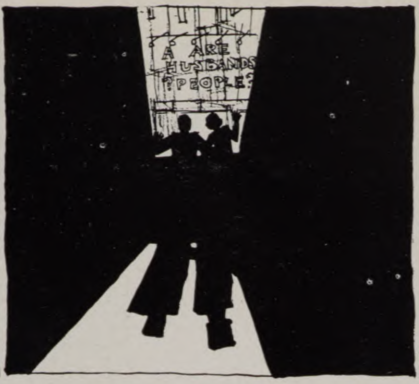
ARE HUSBANDS PEOPLE?

Fig. 2

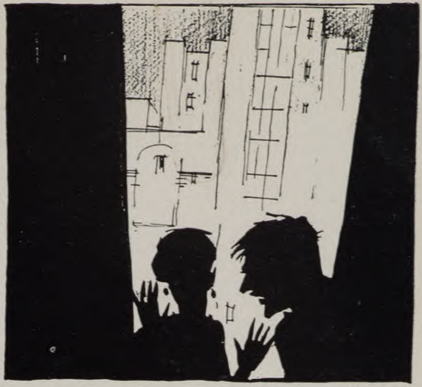

Fig. 2A

Putting Composition Into the Picture

by
J. Belmar Hall,
Instructor, Department of Cinema, U.S.C.

LAST month I gave a chart containing all the elements in structural design. Each one has its relation to good composition, with them all combined we have perfect harmony. The first consideration in cinema is action, without action we have not a motion pictue, but a static form that is no better than a still picture. We might just as well use an enlarged photo and shoot it in motion pictures if that is all we are going to get on the screen. Unless the related lines set up motion and continue to keep this flow of action all thru our film we have broken the rule of composition and no matter how interesting the subject is it will only be just another picture.

The line that denotes action is the oblique line, as it falls away from the vertical it is the movement of falling away that commands attention. The moment we see an oblique line we see that it converges and must lead the eye in or out of our picture into some related action. Even if there is no other movement than the oblique line it will appear to the eye as movement or action. A glance at Fig. 1, you will note that the light and shadow are the only things that have made this so, yet we have dramatic action even if the figure did not move, or we cut the shot at this point. Fig. 2, is almost the same shot but the shadow gives us another action angle that is built up by the close-up, Fig. 2A, that has brought our attention to its dramatic value by the oblique line and as we come into the scene we are more concerned with what the figures are doing at the window only because our eyes have led us into them by this line of action.

Fig. 3 is bringing the oblique line from above, that is we have built up our dramatic action thru some light source. When we cut into the closeup of this same scene, Fig. 3A, we retain the same mood, but the oblique line is emphasized by seeing the angle line in clearer view. When we are trying to create an emotional value we must always remember that the eye will follow the dramatic lines of an oblique line quicker than any other line. It must lead you in or out of the scene. A direct contrast, repetition, in line would mean that we have an oblique line coming from the opposite direction which brings the two lines to a central point. Again we have the dramatic. Fig. 4, we have men pulling ropes from above, and their bodies take up the opposite of that action, therefore we have set up emotionally two oblique lines that are related as they converge from opposite directions, but bring our eyes to the central interest which is dramatic action. If you will divide the two lower halves you will see that each half is in composition and if

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Fig. 3

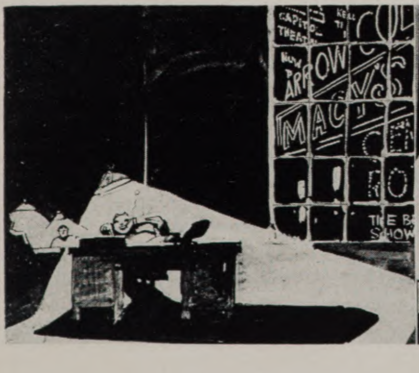


Fig. 3A

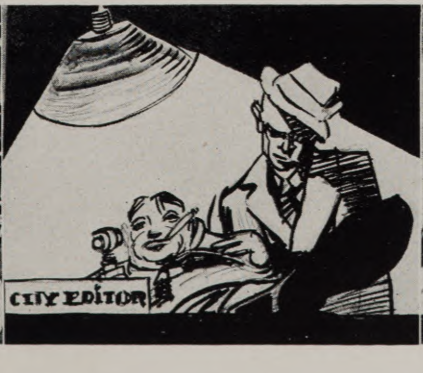
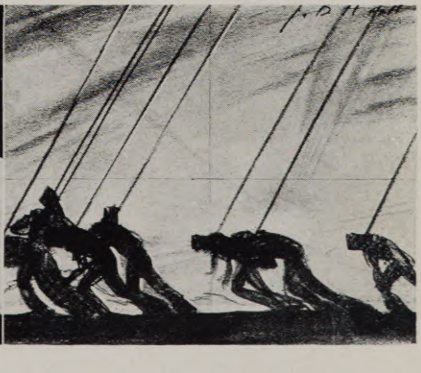
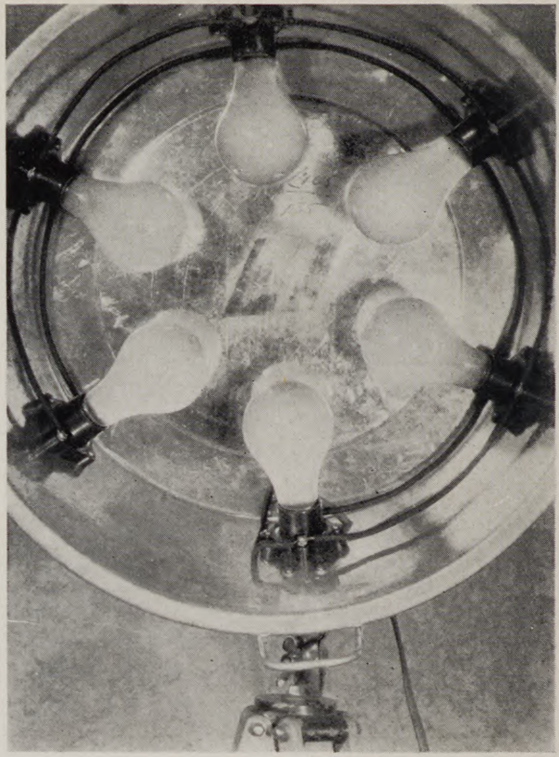


Fig. 4



Dishpan Into Flood Light



by
William Stull, A.S.C.

SHOOTING some Kodachrome interiors the other day, I discovered that all of my lights put together were barely enough to provide sufficient general illumination to give me an exposure. There wasn't a single lamp to spare for creating modelling and light-effects. So I decided to get one or two extra-powerful floodlights to take care of the general lighting, while some of my regular lights did service in modelling.

Right there I made another discovery: nothing I could beg, borrow or steal (aside from huge studio lights which would have blown my house-fuses in a second) would provide the requisite high illumination over a wide area. Most amateur lighting units are of the floodlight class—and they seem plenty powerful, too—but they are designed for general all-around use, and project their powerful beam over a relatively narrow angle. If I wanted something that would give approximately the same unit intensity over a very wide area, I would have to build it myself. That is just what I did. My floodlight is hardly a factory job, for it was assembled from odds and ends picked up at the five-and-ten and in kitchenware stores: but it does the trick. And the total cost was exactly three dollars.

Needless to say, such a lamp won't be as efficient as a lamp designed and manufactured solely for photographic use: its makeshift reflector can't handle the light as effectively as one designed by a trained illuminating engineer, and built for that purpose and that purpose only. After all, you can't expect a three-dollar makeshift to perform as perfectly as a professional product which sells for forty-five or fifty dollars!

The foundation of the lamp — the reflector — is an old-fashioned tin dishpan. Incidentally, with the advent of the modern concept of the kitchen beautiful, dishpans are going highbrow: enamelware, brushed aluminum, and other fancy pans are plentiful (at fancy prices, too!) but the generous tin dishpans of yore are hard to find. Mine is 17 inches in diameter at the edges, tapering inward to a bottom circle of 14 inches, and 6 inches deep; it cost $1.35. Figuring that Photoflood globes have a bulb 2½ inches in diameter, and are 4¾ inches long, I found I could safely use six Photofoods in my dishpan. There was room to crowd in one or two more, perhaps, but that would have left too little room for ventilation; the globes would become too hot, and their already short lives would be yet further shortened unnecessarily. So I distributed six Photofloods around the rim of the pan, with their bulbous ends converging toward the center. They are mounted as close to the bottom of the pan as possible, so that the light won't scatter too far at the sides. The sockets were bolted onto the pan.

My dishpan has a tapering rim, so I used bakelite sockets (15c apiece at the five-and-ten), and ground the bases of the sockets on one side so that the lamps would stand fairly straight.

The wiring inside the pan was done with fairly heavy, single-wire rubber insulated cable, also from the 5&10. The lamps were wired in parallel, of course. At the side I decided would be the bottom, I drilled a hole through which the wire passed to a switch (another 15c to Mr. Woolworth) which was mounted on the rear of the lamp. From the switch I ran twenty-five feet of rubber insulated, two-wire cable terminating in a rubber-covered two-prong plug.

The next question was a stand upon which the lamp could be mounted, and a tilting device of some sort, so that the unit could be directed at the proper angle. Looking over my photographic kit, I discovered an old tripod that somehow had missed being loaned or swapped. There was my stand—but it had no tilt-head. Again, the photographic cast-offs yielded the solution: I dug out an "Optipod," a little ball-and-socket jointed gadget that had kicked around in my camera kit for fifteen years or more. Underneath the pan, I fixed a bit of heavy scrap brass, such as can be picked up in any machine-shop scrap-pile. In this I drilled a hole threaded to make a tripod-screw, and attached the "Optipod." And my floodlight was complete.

(Continued on Page 500)

Cinefilming an Eclipse of the Moon

by

George F. Ryan

WHILE watching the eclipse of the moon several weeks ago, it suddenly occurred to me that it would be mighty interesting to try to make a motion picture of the event. Of course, I had never photographed an eclipse before, and as I'm not even an amateur astronomer, I had only the haziest notion of how to go about it. But I took a chance: and because I managed to get some surprisingly good results, I am passing on to anyone who may be interested this description of what I did.

I did not start to make pictures until the moon was covered. Therefore I made pictures only of the uncovering—the last half of the eclipse.

To start with, I set up my Cine-Kodak Special on a good strong tripod, on the front porch roof. I figured I would be there for some time, so I took a comfortable chair out onto the roof with me. And was I glad to have that chair! The part of the eclipse I photographed lasted from about midnight until nearly half-past three in the morning. Making my film in stop-motion, one frame at a time with an interval between each exposure, I made nearly four hundred separate exposures.

As I decided to make the picture literally at the eleventh hour, I had to use whatever film was in the camera. In this case, it happened to be Cine Kodak Panchromatic film, and it gave me excellent results. As each frame had to have a moderately long "time exposure," which can easily be given in the "Special," I don't think there would be any great advantage in using SuperSensitive; in fact, there might be some disadvantages.

The first problem was the matter of reading the light to determine the proper exposure. Not being an astronomer, I knew only that the light from the moon was moonlight. Moonlight is very nice for poets to talk about—but the problem was, "how much was it worth for exposing film?" Naturally, I turned to my Weston exposure-meter for the answer. Again I ran into a problem! The Weston designers have provided a solution to most any normal exposure-problem—but moonlight exposures can hardly be classed as normal problems. Moonlight is, I knew, reflected light from the sun; but somehow, I didn't feel that that was enough reason to class it as daylight. On the other hand, it certainly wouldn't come under the heading of "Tungsten Light"! But I didn't have to worry about this matter very long, for I soon found that there was not enough light to operate my meter at any setting.

There was only one thing left for me to do — take a chance. I took a chance, and gave a good, long exposure. Maybe my guess was right; maybe the latitude of the fim and the skill of the laboratory experts deserve the credit. At any rate, my exposure turned out to be about right.

Thanks to the reflex focusing device of the "Special," it was easy to line up my camera for the shot. First I tried my one-inch lens, wide-open at f:1.9, of course. I saw at once that the one-inch lens covered too wide an angle, and would only give me a very small picture. I'd rather expected this, but if I could use that extra speed, I naturally wanted to!

Finally I used the 6" Telephoto lens, wide open at f:4.5. Naturally, as the moon is something like a quarter of a million miles away, I set the focus for infinity.

The 6" gave me a pretty fair-sized image of the moon; in fact, it fills about a third of the frame. But due to the long focal-length of the lens, I soon found that the slightest movement of the camera sent that old moon jiggling all over the finder. I had to move as gingerly as though the camera had been loaded with TNT; but finally I got the moon centered on the cross-hairs in the finder.

Using the single-frame hand-crank, I carefully opened the shutter. As soon as this was done, I turned a flashlight on the dial of my watch, and gave the frame an exposure of exactly one and one-half minutes. I don't know why I selected that particular length of time—but as things turned out, I hit things just about right. When the time was up, I closed the shutter.

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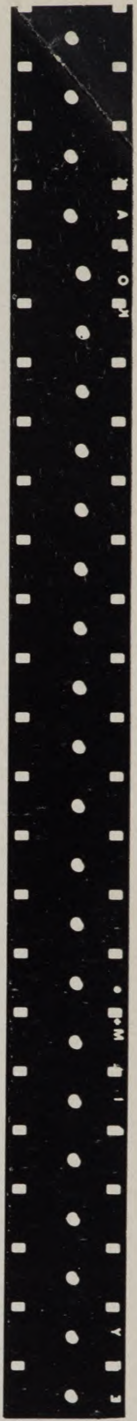

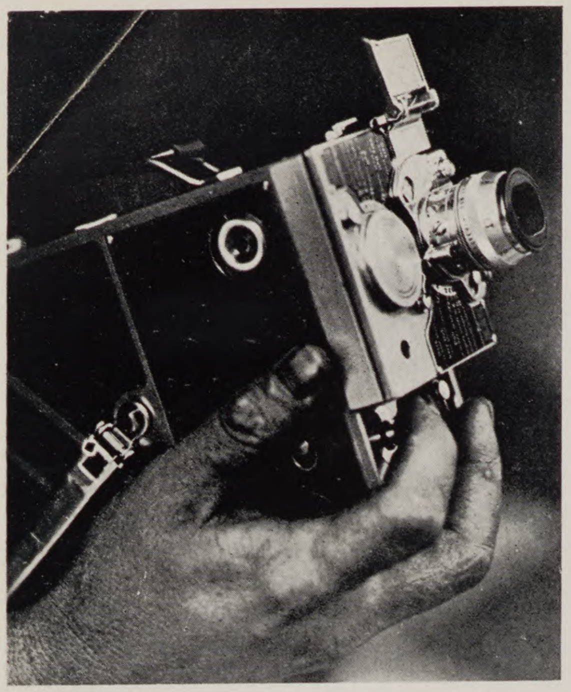

Spectacle-Lens Macrography with the Special

by
Fred C. Ells

(NOTE: The author, Fred C. Ells, will be remembered as the maker of the 1933 Contest prize-winner, "Rice." He is an American oil-company executive in Yokohama, Japan, who between intervals of purveying oil for the lamps of China and the motors of Nippon, engages in amateur Cinematography with outstandingly original results. Editor.)

MR. LINDSEY W. Ross, in the April, 1935, issue of "THE AMERICAN CINEMATOGRAPHER," contributed a workmanlike article on the use of auxiliary lenses in titling with the Cine-Kodak Eight. I have never tried titling, and don't expect to: but that article was the most useful I have read in months, because it opened a new world to my Cine-Kodak Special.

Using auxiliary lenses with most cine-cameras is, I imagine, a fairly tricky proposition. With your focus carried forward to so near a point, one can expect very little depth of focus, and the area covered is such that except in a rigid arrangement like a title-board, it ought to be rather a problem to line your shot up with any confidence. But with the reflex finder of the Cine Special, work with simple auxiliary lenses should be comparatively easy. I decided to try it.

From an optician's I bought three ordinary spectacle-lenses, of 1½, 3 and 5 diopters. At a glass shop I had these cut down to fit the filter-cell of my 4½" telephoto lens. With this improvised equipment slipped over the barrel of the telephoto, a glance through the reflex finder was a revelation. Through the 5 diopter lens a silkworm suddenly looked like a huge white boa constrictor at close range. Macroscopic cinematography at a cost of 6 yen is decidedly the best bargain of 1935!

Next I had a machinist turn out an aluminum adapter to fit my spectacle-lenses to the regular one-inch lens. The inner end of this fitting is shaped like the regular sunshade for a one-inch, f:1.9 Eastman lens. The outer end flares to exactly the same outside diameter as the telephoto lens shade. In use, I remove the sunshade from the one-inch lens, and replace it with the adapter, the outer end of which takes the regular telephoto-lens filter cell, in which I mount the spectacle lens. In this way, I can not only use one set of spectacle-lenses for both camera objectives, but also double up on filters, making one set do for both objectives. This is a big advantage, particularly with the spectacle-lenses, for the supplementary lenses give different fields when used with different camera-lenses. And using only one set of lenses, with a single holder and adapter, the entire range is instantly available at all times, yet easily tucked away into case or pocket. This complete interchangeability, however, is only possible when one uses a camera like the "Special," with its reflex finder.

A good deal of my last picture, "In the Beginning," was taken at the zoo in Tokyo. I have no special privileges there, so I had to shoot everything through the wire of the cages. The reflex finder showed me that one can place a camera lens right on the wire, with the wire straight across the lens—and it won't show on the film, except perhaps as a slight and pleasing diffusion. With the big telephoto lens you can work four or five inches away from the wire without showing any wires on the screen. Why this should be, I am not a good enough technician to say: but if you don't believe it, just lay a piece of wire across your lens and try it!

For photographing small animals, birds and insects, I find the 64 frames per second speed very handy. Birds are apt to move suddenly, but if you can get them to stay in focus for three or four seconds at 64 frames per second, you have enough film for one shot. Also, the high speed necessitates opening the lens, thus throwing everything but the bird out of focus. This concentrates attention where it belongs—on the bird—and gives a softer, more portrait-like quality. It is a real advantage.

For small reptiles, white mice, squirrels, etc., a glass cage about two feet long by a foot wide proved very useful, as these lively little artists have no idea of posing unless they must. One has to be very careful about reflections, though, when shooting through glass.

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Inside Workings of a Ship's Photographer

by
Karl A. Barleben, Jr

Leicaphoto by Nina Morgan

THE other day I was privileged to get a peek into the inside workings of ships' photographers' lives—I was invited to visit a while with Hanns Tschira, ship's photographer on the Hamburg-American North German Lloyd liner "Columbus" while she was docked at the foot of 46th Street on the Hudson River, New York City.

Tschira conducted me up to the sun-deck where indeed the sun seems to shine gloriously and warm, and thence to a fairly small, white structure situated rather aft-center. This was the photographic department of the vessel. In we went, and I was treated to a most amazing lay-out of small rooms, each designed and equipped with everything needed, and all placed with an eye to compactness and the utilization of every bit of space wherever possible. The first room served as an office, and here just off the door was the desk, above which a series of pigeon-holes, into which the photo-finishing jobs are placed ready for delivery. On the opposite side of the room a work-table, running the entire length, was to be seen. Here prints are sorted, trimmed, spotted, and inserted into their delivery envelopes.

Straight ahead was another door which leads into one of the darkrooms. This room contains a fast-working contact printer for contact prints from Kodak negatives, a Leitz Focomat enlarger for making enlargements from Leica and similar negatives, several sets of rapid driers made of curved steel covered with canvas, cabinets simply loaded with hundreds of film rolls, boxes of printing paper in various sizes, grades, and finishes, and a print-washer and sink. The illumination is exactly the same as you'd expect to find in any well-equipped darkroom.

To the left of the room was another door which leads into the negative developing darkroom. Here were six deep tanks, such as are used by commercial photo-finishers, ample sink space, cabinets for chemicals and odds and ends. The idea occurred to me to ask about the wash-water, figuring that as sweet water is carried in huge tanks on board, one would have to be careful about wasting it. Tschira explained that his wash-tanks are running almost continually, and that the vessel's tanks hold so much that what he uses on a trip—which is plenty—is a mere "drop in the bucket" so to speak, and that they never give it a thought. I also asked if the solutions ever spilled when the ship was at sea and rocked, but was informed that such is not the case; that ample provision is made for such conditions.

The volume of photographic work on a modern liner is so great that it requires five men to adequately handle it all.

Hanns Tschira was one of the contributors to the International Leica Exhibit, and is, in his own right, one of the foremost photographers of our day—and recognized as such. For the past several years he has done all of his work exclusively with the Leica—or rather six Leicas, I should say. A slight idea of his activity may be gained by my telling you that on board the "Columbus" alone he has a shelf of negative files containing more than 25,000 Leica negatives—all neatly numbered and accounted for, in strips of five negatives each, encased in cellophane envelopes which are bound in substantial volumes. In his home in Bremen, Germany, a similar number of negatives are on file. Not only are these just negatives; they are exceptional negatives, each one a gem of beauty and sparkle. If you have seen the International Leica Exhibit you will remember that Tschira's pictures were of the finest technical excellence and pictorial beauty. All of his negatives possess a similar characteristic.

His personal business is such that an American agent handles his work for publications. Practically all of the photographs seen in folders, booklets, and posters advertising the Hamburg-American North German Lloyd Lines are the product of Tschira's magic cameras.

After browsing through the files of glossies, Tschira hauled out a few of his specialties which he has found to be of infinite value in his work aboard ship and on land. One was a metal cross-piece made to hold the Leica which fits over a glass flower vase. When personages are to be photographed at dinner, or when candid pictures are the order of the day, the vase is filled with flowers in such a way that the camera is completely hidden from view,

(Continued on Page 498)

HERE'S HOW

by A. S. C. Members

WHAT does the classification of a lens as a 1.9, 2.9, or 3.5, indicate and how is this arbitrary classification arrived at?

I understand that the speed of any lens depends upon its relative aperture to its focal length which would seem to indicate that a 1.9 lens opens up the diaphragm more than a 2.9, but what formula is used in thus marking lenses? Why is the E.K. 1.9 lens so much larger in diameter than a Dallmeyer 2.9? I mean its appearance in the cell would indicate that it is many more times the area of the Dallmeyer.

I understand that any number of lenses having 1 inch focal length allows the same amount of light to enter when the lens is set at a given diaphragm stop such as 8 etc. Is this correct? I would appreciate any information you can give me on this subject.

C.S., Rock Island, Ill.

The classification of a lens as an F/1.9 or 2.9 or 3.5 definitely indicates the maximum effective aperture of the lens.

It is not arbitrary but indicates the ratio effective aperture diameter to focal length, expressed as f/d/ where "F" stands for the focal length of the lens and "D" for the diameter of the aperture.

This method of classification had been proposed in 1881 by a committee of the Royal Photographic Society of Great Britain and definitely adopted by the International Congress of Photography held in Paris in 1909 according to the following decisions (not in full):

A. Each diaphragm is to be characterized by a fraction of F/n where "n" is the result obtained by dividing the absolute focal length of the lens by the effective aperture of the diaphragm. The value "n" shall be engraved on the lens mount.

B. All photographic lenses shall be characterized by a standard series of diaphragm apertures, and shall always be in accord with the following progression which corresponds for each of its terms to an exposure time double of the preceding one. F 1, 1.4, 2, 2.8, 4, 5.6, 8, 11.3, 16, etc.

C. If the effective maximum aperture does not correspond to one of the Terms of the progression it will be indicated as to its real value but the next marking and all that follow shall be according to the progression.

Thus the maximum aperture of an F 1.9 lens is between F 1.4 and F 2. The markings of the mount will indicate F 1.9, 2, 2.8, 4, 5.6, etc. The Diameter of an F 1.9 would therefore be approximately twice the diameter of an F 2.9 of equal focal length.

The Diameter of the lens is not, however, a true indication of its aperture because the effective aperture is determined (in the common case in which the diaphragm is placed between the lens components) by the virtual image of the diaphragm formed by the lens components.

Under these conditions the effective aperture is always greater than the actual area of the diaphragm.

Lenses of the same focal length working at the same aperture will transmit the same amount of light if they are of the same construction.

Different types of construction involving differences in the number of elements used and their thickness will have an influence on the amount of light transmitted. These differences are, however, rather small and would have to be accounted for, only in special case, for instance on photographic work from which quantitative measurements are to be derived. In common amateur practice these differences can be considered as inconsequential.

J. A. Dubray, A.S.C.

I WANT to try some experiments in animated cartooning with my 8mm camera, but it does not have a single-picture mechanism. Is there any way such a movement could be added to my camera?

W.D., New York City.

The principal manufacturers of 8mm cameras advise us that it is not feasible to build such a feature into their existing designs. However, a single-frame release can be added to most 16mm or 8mm cameras as an outside attachment. The Grace "Electrimote" is probably the best known of such attachments, and permits the shutter to be tripped by pressing an electric button-switch, which may be located at any distance from the camera. Some cinamateurs have also told us that with a little practice they have been able to learn how to flick the regular shutter-release of an 8mm camera so quickly that only one frame is exposed.

Wm. Stull, A.S.C.

IS 8mm film slower than 16mm film? I notice that recommended exposures for 8mm are about f:8, where regular 16mm Pan would call for f:11 or less.

W.E., Palo Alto, Cal.

Eight mm. Cine-Kodak Panchromatic film is at least as fast as regular 16mm Pan of the same manufacture. The difference in the exposures recommended is due to the difference in the shutter-openings of 8mm and 16mm cameras. The average 16mm camera has a shutter-opening of 170 to 180 degrees, while some, like the Filmo 70 and Victor, have openings of over 200 degrees. In the more compact 8mm cameras, the shutter opening is more nearly 120 degrees. This means that less light is admitted, and consequently, the lens must be opened up in order to compensate for this. In terms of actual exposure-time, the larger shutter of the 16mm camera gives an average exposure of 1/30 second, while the smaller opening of the average 8mm shutter gives about 1/50 second. This is quite enough to account for the difference in the recommended lens-openings.

Arthur Miller, A.S.C.

IN articles dealing with professional cinematography, I have often seen references to "Neutral Density Filters." What are they? And can they be used in amateur filming?

R.G.W., San Antonio, Texas

The Neutral Density Filters are colorless grey filters which reduce the amount of light without having any effect upon the rendition of colors in the picture. They are used both to control exposures where it is not desired to alter the optical quality of the picture by stopping down the lens, and especially to soften glare and harsh light-contrasts. They are available in several densities, those most generally used being the 25, 50, 75 and 100% absorption filters. They can be used quite as well with substandard cameras as with professional equipment. In fact, for a long time the only way of controlling exposures in Kodacolor was by the use of Neutral Density Filters.

Daniel B. Clark, A.S.C.

IT'S *Tops* IN THE 16 MM. FIELD

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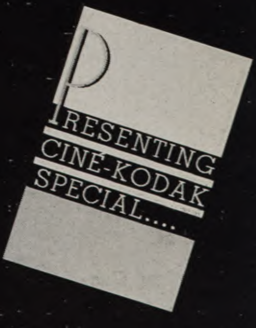


FREE...Send for the Ciné-Kodak Special Presentation Book containing 15 pages of information and specific details of this most versatile of all 16 mm. motion picture cameras.

Eastman Kodak Company, *Rochester, N. Y.*

WHEELS OF INDUSTRY

New Lenses

●The already complete battery of lenses for the Leica camera is now being added to, according to E. Leitz, Inc. Three new have recently been made available for use on the Leica — an extremely wide-angle, a new special soft-focus portrait, and an extremely long-focus telephoto.

The Hektor f:6.3, 28mm lens appeals to those workers who require an extremely wide-angle objective which at the same time embodies certain fundamental optical characteristics which are not always to be found in lenses of this type.

The Thambar f:2.2, 90mm lens is said to be of revolutionary design producing a plasticity and optical softness not produced in any other way. For portraits and pictorial work it is ideal, its speed making it doubly valuable. An auxiliary glass "central stop" controls the degrees of softness. When stopped down to f:9 or more, the Thambar reverts automatically into a sharp-cutting lens, thus it is both a soft-focus and sharp lens.

The Telyt f:4.5, 200mm lens is a telephoto lens which is used in conjunction with a mirror reflex focusing device. Here is the lens to pull in distant objects, producing them as closeups on the negative. The visual focusing device, equipped with two special magnifiers, assures critical focusing with the greatest of ease.

These three new lenses, added to the battery of Leica lenses, make the Leica the most versatile and complete photographic equipment available. All lenses (excepting the Telyt which focuses through the special mirror reflex device) couple automatically with the "Autofocal" built-in range finder.

The new Leica lens booklet "The Interchangeable Leica Lenses" (booklet 1243) is now available on request. It gives complete details about each of the thirteen Leica lenses now on the market.

Carrying Case

●The Motion Picture Screen & Accessories Co. of New York City, manufacturers of Britelite Truvision Portable Screens, indoor floodlight reflector units, film storage cases and projector cases, have added to their line a new carrying case for the Keystone Projector which is said to embrace novel features.

With the new Keystone De Luxe Case, which is suitable for either the B 63, A 74, or A 78 Projectors, risk of damage to the projector is claimed to be avoided, as the base of the projector fits firmly into the bottom of the case and cannot wobble while being carried. When ready for projecting pictures, the case opens on both sides leaving the projector free for the threading of the film without having to remove it from the case. When the show is completed both side flaps are brought together enclosing the projector in the case. Thus the machine can be run while in the case in which one carries it.

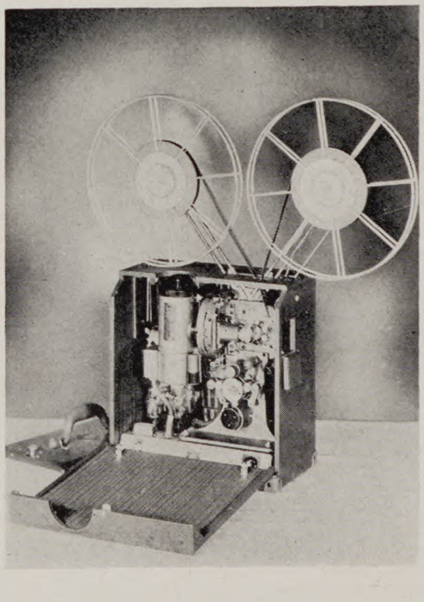
In addition to the above they also make the case for the new Keystone 8mm Projector—G.8.

Berndt Moves

●The Berndt-Maurer Corp., manufacturers of the professional type 16mm sound camera, continuous sound and picture printer, High Fidelity sound recording apparatus and Galvanometers, announces its removal to the 7th floor of 117 East 24th St., New York City, where they will be able to increase their facilities because of larger floor space to meet their present demands for equipment.

Educator Animatophone

●The Victor Animatograph Corp. created their Model No. 25 16mm Sound-on-Film Projector for those markets where the audiences do not exceed 200 people.



According to their announcement the principal distinction between Educator 25 and Model 24B is a lighter duty amplifier which made possible a reduction in size, weight and price.

This projector employs the 500-watt lamp for illumination, has a Rola 10" dynamic speaker with 50-ft. cord attached. The weight of the speaker in case is 12 pounds and projector in case 33 pounds. This model accommodates either 400- or 1600-ft. reels. It has a rapid power rewind.

New Releases

●The release of fourteen one-reel motion picture episodes based on Old Testament stories is announced by the Bell & Howell Filmosound Rental Library. This non-sectarian 16mm sound-on-film series offers the following titles: "Creation"; "Cain and Abel"; "Noah and the Ark"; "The Deluge"; "Abraham"; "Migration"; "Abraham and Lot"; "Isaac, the Boy"; "Ishmael"; "The Sacrifice of Isaac"; "Isaac and Rebekah"; "Jacob and Rachel"; and "The Return of Jacob."

This series was produced in Hollywood under the personal supervision of Rev. Harwood Huntington. The narration, by Wilfrid Lucas, is based upon sound Biblical scholarship.

Each reel is independent of the rest and complete in itself, for separate showings without reference to any of the others. However, the reels can readily be grouped together into a continuous feature picture. For instance, six, seven, or more reels can be selected and projected as a full evening's program.

Sound Subjects

●Featured in Bell & Howell's latest folder on 16mm Sound-on-Film Subjects is the 7-reel production "Tarzan the Fearless," featuring Buster Crabbe.

In addition to this there is a Charlotte Greenwood subject, any number of scenics, comedies, historical and operalogues, not to mention a listing of 19 Animated Cartoons.

Photographic Annual

●It's always a pleasure to receive a new issue of the American Annual of Photography. The 1936 edition has just come to hand. To attempt to review a work like this with time for only a

(Continued on Page 499)

NOW You Can Have Quality Sound for a trifle more than Silent Cost!

MODEL 25
Sound-on-Film
ANIMATOPHONE
Complete
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VICTOR
16 MM

Model 25 ANIMATOPHONE is the world's lightest, most compact, lowest-priced *High Quality* Sound Picture Reproducer. For only a trifle more than Silent Cost, it provides the facilities for running *both Silent and Sound Films.* Its Performance-Ability is a known and proven quantity . . . . for it embodies the same features that have made VICTOR'S *Super* Hi-Power Model 24 the world's most widely used 16 mm Sound Projector. Principal distinction is a highly perfected, lighter-duty amplifier which made possible Model 25's reduced size, weight, and price. (Total weight, 45 lbs.) Its undistorted Volume and 500 watt Illumination (Hi-Power) are more than ample for audiences of up to 200.

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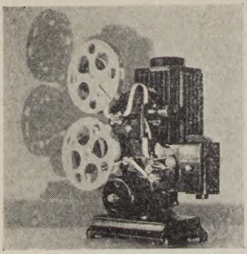
NOTE—MODEL 25 ANIMATOPHONE will operate on either Alternating (25-50-60 cycle) or Direct Current (90-120V) without alterations or use of converter.



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Lighting the Long-Shot

(Continued from Page 486)

If we are alert to the opportunities afforded by the room itself, we can often improve greatly upon these simple effects. Look around you now: the lighting in a normal room is seldom flat, but composed of highlights and shadows from the various table and reading-lamps scattered about. The rounded contours of furniture are picked out by little catch-lights on the curving portions. Chairs and so on standing against the wall cast their shadows behind them, tracing decorative patterns which also serve to make them stand out from the flat surfaces. Curtains form definite patterns of light and shade, with their draped folds licking up light on the high points, interspersed with shadows in the recessed part of the fold.

Every one of these natural light-effects can be reproduced in a photographed long-shot. What's more, they should be, for it is these tiny touches that give character and naturalness to the shot. Almost always, you can arrange your lighting to suggest the natural light-sources of the room. Photofloods in shaded reading-lamps, table-lamps, and such fixtures can often duplicate the normal effects cast by these lamps. If the photoflood is not enough, one can nearly always supplement them by photographic units outside the camera-line, with their beams directed to the right places.

In many rooms, it is difficult to avoid shooting past doors leading to hallways or adjacent rooms. Ordinarily, these portals are just gaping black areas which distract the attention from the subject. But how do they appear in real life? Don't we generally see a well-defined fan of light coming through them from the next room? Well, if we want to, we can reproduce this effect, too. A regular photographic lamp will give us a strong, "hot" beam for such effects, if we have a lamp to spare for the task. If not, we can get a similar, and less obtrusive effect by simply planting a Photoflood in an unshaded socket such as a wall-fixture or chandelier in the farther room.

Another important service our long-shot lighting can do is to place the emphasis where we want it. As the writers on composition have pointed out, shadow-patterns, for example, can lead the eye from the foreground to the background, or wherever the important action may be. Similarly, too, if we keep the foreground lighting rather subdued, with the background lit more brightly, the eye will be attracted to the more brilliantly illuminated area. Combining these two ideas, it is possible to place the emphasis of any scene exactly where we want it.

In lighting any scene, there are two principal ways to work. You can work down from the high-lights, or up from the shadows. In the first instance, you begin by creating your highlights, and let the shadows take care of themselves, filling in here and there wherever it may be necessary to eliminate unwanted blotches of black. In the second method, you begin by laying down a general foundation of soft, flat front-light, which will preserve the detail in the shadows. Then you build up the high-lights from this, using stronger lights, or lights that are closer to what they illuminate. Either method is good; the latter, while probably the safest, calls for more lights as a rule than does the other.

There are several "gadgets" which can be easily built, and which are very useful in this sort if lighting. The first is the "nigger" or "gobo." This is simply a tall, narrow black screen, to prevent the light from some lamp from striking the lens. It is a strip of wall-board perhaps a foot or so wide by five or six feet high, painted flat black and supported by roughly built wooden feet. Another is a simple support for lamps you want to place on walls. If your room has a strip of moulding at the top, you can easily make a wooden frame (often a single board is sufficient) with a picture hook at the top, to hook over the moulding, and the lamp at the bottom. If you are a good carpenter, you could make such a frame H-shaped, hanging from two hooks, and with a movable bar at the bottom, pegged in place with dowels, so that the height of the lamp can be adjusted. Often, too, little utility lamps, made of dime-store sauce-pans, bread-pans, etc., with a socket and a Photoflood, will prove valuable in producing catch-lights on table and chair legs, and the like. Such lamps can easily be hidden on the floor, behind furniture, etc., doing very necessary work and freeing the larger lamps for other purposes.

Yet another very useful accessory is a "snout" or concentrator, which is fitted over your regular photographic units, and changes the beam from a wide flood to a more or less concentrated spot. The exact construction of the snout will naturally depend upon the type of lamp you use: in general, it is a hollow, truncated cone, fitted with clips at the larger end by which it is attached to the lamp's reflector. It is very useful in confining a beam to a specific area. It does not make a floodlight into a spotlight, but it helps mightily in producing "spot" effects.

COLOR...
or Black and White

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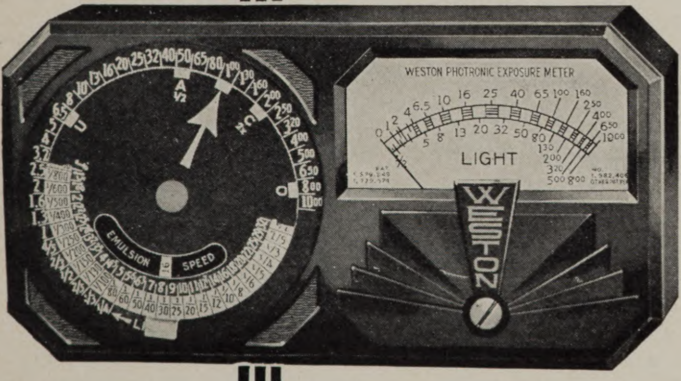
CORRECT EXPOSURES FOR INDOOR SHOTS!

With its greatly increased sensitivity and easy-reading scale, the new Weston Exposure Meter has removed all exposure risk from indoor movie-making, as well as those outdoors. Whether it's color film or black and white . . . whether it's artificial light or low levels of daylight . . . the meter will furnish correct camera settings and insure perfect exposure results on screen or print. The new Weston is on sale at all leading dealers, at a new low price of $22.50. Step in and ask your dealer for a demonstration today... Weston Electrical Instrument Corporation, 598 Frelinghuysen Avenue, Newark, N. J.



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Other sizes priced in proportion.

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Literature on Request.

C. P. Goerz American Optical Co.
317 East 34th St. New York

Spectacle-Lens Macrography with the Special

(Continued from Page 490)

Sometimes when splicing scenes of designs or patterns, it may be difficult to tell which is the beginning and which the end of a strip of film. I have noticed, though, that on most kinds of film the manufacturer's name appears in the margin of the film, and apparently always on the same margin. By watching this lettering, you will never splice a scene in upside-down. Another help (except when you use negative-positive), is that most 16mm cameras photograph an identifying design in the margin, too: the Ansco, Bell & Howell, Ensign, Victor, Risdon, and Stewart-Warner make theirs in the right-hand margin (as viewed emulsion down, picture "head-up"), while the Cine Kodaks, the Nizo, Zeiss Kinamo, Movex and Simplex make theirs in the left margin. If you should happen to strike a film whose maker was too modest to put his name on the film, your camera itself can help you to avoid splicing a scene wrong-side to.

Sometimes, incidentally, it is actually desirable to cut a scene in backwards. There is always, of course, the trick of getting reversed-motion effects by shooting with the camera upside-down, and reversing the scene end for end when you cut it into the picture. Then, in cutting animal sequences, I have often found that a middle-distance shot showed an animal or bird facing in one direction, while the big closeup which was to follow showed it looking the opposite way. Such things can't be avoided when you are filming wild life; but splicing the closeup in backside-to remedies this. Theoretically, of course, as this puts the emulsion on the far side of the film from the projection-lens, it throws the picture slightly out of focus: but practically, I can't see that it appears on the screen as disagreeably bad focus.

While I am enthusiastic over the reflex finder of the Cine Special, I'll admit that there are some other features of the camera for which I have not found so much use. Every amateur wants to make lap-dissoves; but once you have a camera that can make them, you find you don't do so nearly as often as you would expect. I have tried numerous lap-dissolves, but the technique is rather difficult, I think—and whenever I did get a good one, it never seemed to fit when the film was cut. So my last film shows only one dissolve.

The fade-in and fade-out are useful, and easy. But they have their pitfalls: after one fade-out, I recall, I left the shutter closed and ran 125 feet of film through the camera before I discovered the error! Now when I fade out a shot I immediately open the shutter before taking my hand off the lever!

Most of this article has been devoted to the camera: but I also use a Weston Exposure-Meter, and I've found it almost as important as the camera. Exposure-meters (even the best ones) have one thing in common with cameras: they say that neither will lie—but both cameras and exposure meters can be made to lie if we aren't careful about what we show them. For instance, your meter will lie like an old-school politician if you change from Pan to Superpan without changing the meter-setting. Also, be sure your meter-reading is coming from the object to be photographed, and not from the background. For instance, white rabbits against a dark background will make a liar out of the most accurate meter unless one holds the meter close to the rabbit. After all, the rabbit is the subject, and the background is secondary; but the meter has no brain, and can't make such distinctions. It will average the two up every time unless you show it exactly what you're shooting for.

Incidentally, getting back to our spectacle-lenses, the meter will be useful in shooting with them. You won't have to learn any new tricks in exposure for making pictures with these auxiliary lenses, for the f-speed of the camera lens is not changed by the addition of the spectacle-lens. If the meter says f:8, f:8 it is, whether or not your camera is wearing spectacles.

Inside Workings of a Ship's Photographer

(Continued from Page 491)

although there is space provided between the blossoms for the lens. With a cable release, Tschira merely snaps his pictures at will, getting a steward to turn or move the vase slightly so as to aim the camera lens in the direction wanted. He claims this stunt works perfectly, and with it he has been able to get some unusual dining salon scenes which would otherwise prove difficult, if not impossible.

Next came a special Photoflash outfit equipped with two reflectors. This device is somewhat heavy, consisting of a metal box which contains the batteries, and upon which the Leica fits. Two metal tubes carry the wires from the battery-box to the lamps. These tubes curve upward around the camera, making a rather bulky affair. It is too heavy and bulky for amateur use, but it was designed primarily for Tschira's own use and for a few professionals who could use it in their work. For ship-board work, it is ideal because its weight overcomes ship vibration and thus permits clean-cut pictures to be made at relatively low shutter speeds.

What proved to be a most unusual, yet practical idea, was a leather belt device with shoulder-straps which could be worn on the person. The straps were fitted with pockets and loops for the accommodation of several different lenses, a number of filters, ten rolls of film, and other small miscellaneous gadgets which often prove useful when out picture-making. Tschira's idea in designing this apparatus was to eliminate the bother of filling various pockets with additional equipment. It likewise permits both hands to be free and unencumbered. The belt makes an ideal accessory for candid cameramen, for an overcoat can be worn over it thus concealing it entirely. Tschira has often worn this belt when in various parts of the world where picture-making is frowned on. On shipboard, too, it has proved its worth to him. This belt is not commercially available, nor are the other devices he showed me, they having been made up solely for his personal use.

When next you make a trip on a liner, investigate the ship's photographer. You will find him a most helpful guide to photography.

HOLD IT!
LEICA photo by V. Davison

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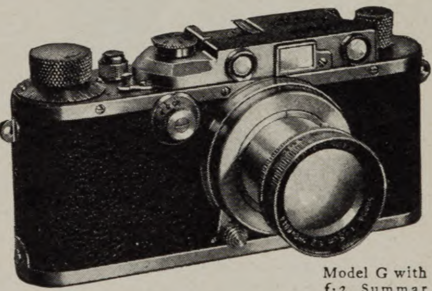
THE ORIGINAL MINIATURE
CANDID CAMERA



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Wheels of Industry

(Continued from Page 494)

casual observation can hardly do it justice.

The reputation of this annual, however, is such that the photographic fraternity hardly needs to have it introduced to them with superlatives. It has hit a healthy and artistic stride which it has maintained these many years.

The 1936 Edition keeps apace with its forefathers. It is replete with fine illustrations from the cameras of the world's leading photographers.

Of course, it contains the usual quota of splendid informative material dealing with the many phases of photography from both its artistic and technical sides. Naturally it deals in several of its articles with color photography and does not overlook substandard motion picture film.

Film Speeds

● The Weston Electrical Instrument Corp. has issued a very interesting and valuable analysis of the speeds of the various films and plates commonly used in photographic work.

While the main body of this is given over to its relation in Weston ratings as used on the Models 617, 627 and 650 Exposure Meters, still it has a conversion table on it for those who employ the Scheiner, Din or H & D ratings.

It gives considerable space to Kodachrome in both natural and artificial light.

EICA or Contax plus a good negative plus good DEVELOPING makes a good picture. We use Super-Soup for developing.

Morgan Camera Shop
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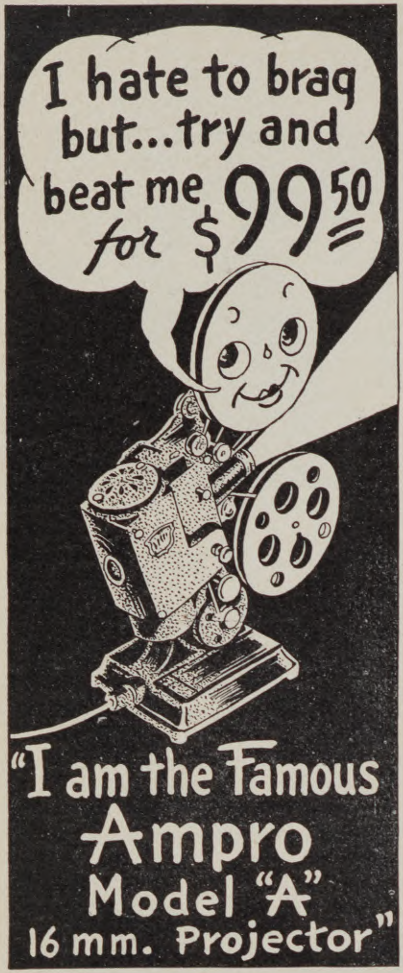
Film Preservative

● Kin-O-Lux, Inc., the owners of New Life and Scratch Proof Methods announce the manufacture of these preparations in concentrated solution form which can be applied by the miniature camera man or amateur movie maker to his own film. The briefest announcement to the effect that these solutions were being prepared in the above manner, resulted in an immediate demand for these preparations from readers according to the claim of the manufacturer.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CAMERA COMPANY
179 W. Madison St., Chicago

Camera Headquarters for Tourists

Dishpan Into Floodlight

(Continued from Page 488)

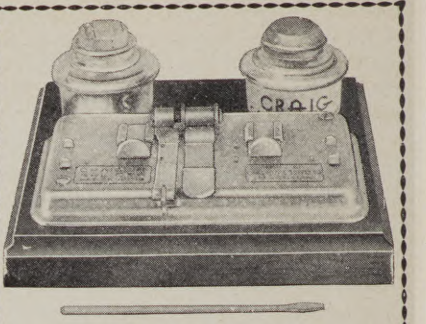
Here's how the cost-sheet read:

1 17″ tin dishpan	$1.35
1 Switch	.15
1 Rubber-covered two-prong plug	.15
6 Bakelite lamp-sockets	.90
36 ft. wire, 4 ft. for 5c	.45
TOTAL	$3.00

In spite of being so predominantly a product of scrap-heaps and the five-and-ten, the flood-pan works surprisingly well. It throws a remarkably even flood of light over an angle of about 150 degrees. Checking with a photoelectric meter against the performance of one of the better commercial single-photoflood units, I found that the dishpan produced at close range (about 10 feet) slightly less light at any given point than did the commercial lamp—but it spread this intensity over at least three times as wide an angle. At a greater distance (25 or 30 ft.), the dishpan gave a very slightly higher reading than the other, lighting up the whole end of the room brilliantly. In other words the dishpan won't give six times as strong a light as the commercial single-lamp unit: but it will give almost as much light over three or four times as wide an area. Reducing this to practical, working terms, the pan-light, when you have to floodlight a large area, will take the place of several of the usual units, which can then be used for light-effects and modelling. But—don't expect it to take the place of three or four single-photoflood lamps with their beams superimposed!

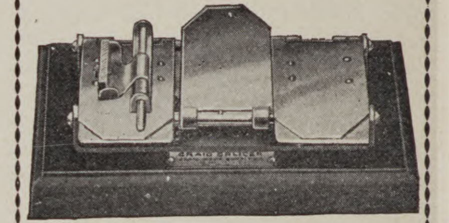
An idea like this is of course subject to infinite variation, according to what one has to work with. For instance, if you aren't blessed with an extra tripod, an old music-stand will make an even better support for the light. If the innermost of the stand's telescoping lifts is a piece of solid metal, you can thread the end, and fit the "Optipod" directly to that. If it is simply a light metal tube, you can either cut off the end, and solder a tripod-screw in place, or substitute a brass rod. Also, if you haven't an old tilting joint, you can get the same effect by cutting your base-block in two, fitting one half to the lamp, the other half to the stand, and holding them together with a horizontal bolt, a washer and wing-nut.

In some cases, you'll get a better light if you paint the inside of the pan with a good aluminum paint, rubbed well down; and of course the lamp will look better if you paint the outside with



CRAIG JR. SPLICER $3.75

Now available for use with both 8 mm and 16 mm films.



CRAIG SPLICER $10

Now available in 16 mm size for use with either silent or sound on film films

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Arri 16mm Printers
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SIMPLE — COMPACT — ECONOMICAL
Our equipment enables you to
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the same day—before your interest wanes
Write for complete details
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The New 16mm
PANCHROMATIC NEGATIVES
(Eastman, Agfa, Dupont)
will surprise you with their fine quality, their beautiful tones and grainless reproductions, if you have them developed by the
DUNNING GRAINLESS METHOD
DUNNING PROCESS COMPANY
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Hollywood, Calif.
(35mm reduced to 16mm)

8mm
Exceptionally Fine Library
Includes Tom Mix, Jack Dempsey, Charlie Chaplin. etc.
Also
8mm Keystone Projector, Model G-8
Write for Catalog and Low Price List.
Harry's Camera Shop, 317 W. 50 St. N. Y. C.

some dark color, such as black crack-a-lac.

The Photoflood globes will last a good deal longer, too, if you add a bit to the budget and use a high-low switch, and only burn the globes at full strength when you are actually shooting. The handles of the pan can be bent up to hold diffusers, which can be made out of a wooden disc or hoop covered with white bolting-silk, tracing-cloth, or the like.

A smaller unit—or rather pair of units—can be made out of one of the light aluminum roasters sold in some of the ten-cent stores. I've seen some priced at around 90c, and you could put three Photofloods into the roaster, and another three into its cover, and have a pair of very handy lamps. Some of the spun-aluminum mixing-bowls would also make nice reflectors. One of my friends recently made a very adaptable single-photoflood clamp-on unit out of an old reading-lamp base and a ten-cent store sauce-pan. Another very handy unit, which would fill a considerable need for something that can be hidden behind furniture, to light up otherwise dark areas, could be made from a ten-cent bread-pan and a single socket. None of these lamps could hope to compete with the artfuly designed commercial photographic lighting units—but they can, and will supplement them excellently. In addition, they give you the real thrill of making something yourself, and proving its merit in your own movies.

Putting Composition Into the Picture

(Continued from Page 487)

they were shot as two separate closeups, each would be good dramatic action. Once you have solved this simple form you will have many shots that fit into the picture.

Another simple method to try with the chart of lines and their relations to composition would be to arrange some still-life subjects on a table and using a cardboard mask with your aperture opening cut out in the center, then by looking thru the opening at different points or angles that the camera could take you will see that they are always related to each other in harmony as long as placed within the rules of the chart.

In order to study the emotion that lines can really give to the scene, if one has the time, it would be good to go near some railway tracks and shoot scenes around the movement of engines and cars. There is no end to what you can develop in dramatic action with a moving train. Standing on the tracks you will see the lines converge, and on one side a post or trestle will lead the eye in another direction. As a line of cars passes by they will take up the same action, repeating the same movement. Get a closeup of wheels turning, cut the shot from below and the angle of the lens will throw the lines into radiation, if you pan with this shot you have set up another emotional group of lines that will have its dramatic meaning, and will always be in relation to what has gone before. It is good to speed up your film when shooting any thing that is in fast motion such as a moving train, and this is very important when shooting people moving in the background as they are not aware that they are being taken so their movement would appear too fast or jerky.

Next month I will give a few examples of trick shots made around abstract line movements with the method they were arrived at, also a breakdown of a script that was written for all the tricks and angles a camera can do without using the human figure. When we have been able to make pictures around lines we will make better pictures with actors, we will know how they fit into the scene in relation to line, form and balance.

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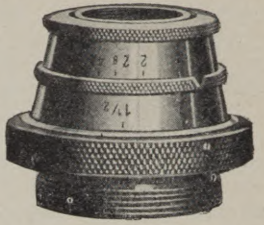
WIDE ANGLE LENSES



When poor light and cramped, crowded quarters combine to create the most difficult conditions for Indoor Movies—Hugo Meyer Wide Angle Lenses provide the ideal means for overcoming these hazards. They cover a 60% greater field than a 1" lens, are extremely fast and are furnished in micrometer focusing mounts, calibrated from 1½ ft. to infinity, for Filmo, Victor, R.C.A. and other cameras.

15mm Kino-Plasmat f. 1.5	$84.00
15mm Trioplan f/2.8	45.00
15mm Trioplan f/2.8 (fixed focus)	39.00

Literature on Request.

Hugo Meyer & Co.
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The Da-Lite Challenger Screen has the tripod permanently attached to the metal tube case in which the screen is mounted. Stands anywhere. Ends bother of clearing desk or table for a place to set the screen.

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Spring locks on supporting rod permit adjustment to any height.

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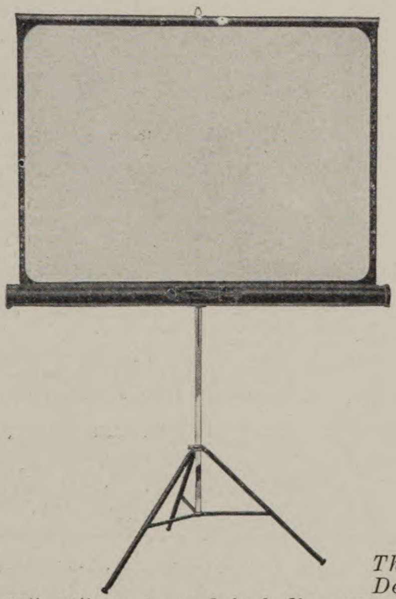

The Challenger (including the Standard and DeLuxe models) is made in six sizes, from 30"x40" up to and including 70"x94". Larger models have crank-lift. The Challenger is only one of a complete line of Da-Lite portable screens. Ask your dealer or write us for full details!

DA-LITE SCREEN CO., Inc.
2723 North Crawford Ave. Chicago, Illinois

Cinefilming an Eclipse

(Continued from Page 489)

For the next exposure, I had to do the whole thing over again. Due to the movement of the earth, the image of the moon had moved a very small fraction of an inch across my finder. That meant each time I made an exposure, I had first to center the image of the moon in the finder if I expected to have a picture that was steady on the screen. After doing this for two or three hours, you can certainly envy the professional astronomers who have telescopes equipped with a clockwork drive that automatically follows the moon, keeping it perpetually centered in the camera without any trouble to the photographer!

Now, as I said before, the moon was covered when I started to make this picture. By the time I had made my first exposure and had centered the moon in my finder for the next frame, the moon had begun to move out of the shadow cast by the earth. This brought up another question of light. No two frames were due for the same exposure-time, for more of the bright part of the moon would be visible each time. Each frame would have to receive a slightly shorter exposure than the one before it. Here again I had to take a chance. For each frame exposed, I shortened the exposure-time by one second. The first frame received one minute and thirty seconds; the second received one minute and twenty-nine seconds, and so on until the moon was completely clear. The last few exposures, when the moon was completely uncovered, were one second each.

I kept this up for three and a half hours. I do not regret one minute of the time I spent doing it. My only regret, in fact, is that I didn't think about filming sooner, so that I could show the whole eclipse, rather than just the latter half. As it is, my film is a little more than nine feet in length. When projected, it compresses action that actually took several hours into the space of a few seconds. The picture, as can be seen from the illustrations, fills about one-third of the screen, and is perfectly clear.

In any "time-lapse" filming of this sort, you can control not only the total duration of the film on the screen, but also the apparent speed of the action by the interval between each one-frame exposure. If the interval is short, there will be more frames, more footage and more screen-time, while since there is less change between frames, the action will apparently be slower and smoother. If the interval is longer, there will be fewer frames and accordingly shorter screen-time, while as the change between frames is greater, the action will seem faster.

A really rigid tripod is a necessity—and even so, you will have to work very carefully to make sure you don't accidentally jar the camera out of line between or during the exposures. A hand-cranked single-frame movement is vital if you are going to photograph a subject which, like this eclipse, requires fairly long time-exposures. It is also a great help (especially with telephoto lenses) to have a camera which, like the Cine-Kodak Special, permits you to focus your whole field through the lens on a ground-glass focusing screen. Where the subject is moving in relation to the camera, this focusing-screen should have cross-lines ruled on it so that you can center each frame accurately and quickly.

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Amateur MOVIE MAKERS CONTEST

Closes November 30th

ONLY A FEW DAYS LEFT

Here are the Rules---Read Them

The Contest is open only to Amateurs. No professional cinematographer will be eligible to compete.

The Contest ends at midnight of November 30th, 1935. All pictures must be received by the closing date or they will not be considered.

Pictures Submitted in this contest will be judged for photography, composition, direction, acting, editing and entertainment value. The judges will include outstanding and widely known cameramen, directors, actors, writers and a group of nationally known motion picture critics.

The Decision of the judges will be absolutely final and there can be no appeal from their decision. Announcements of the awards will be made as soon after the close of the contest as possible and checks and prizes will be sent the winners.

Pictures may be submitted either by individual amateur cine filmers, or they may be submitted by amateur movie clubs. They must be photographed on 16mm or 8mm film. Each entrant must have his entry accompanied by the entry blank which will be sent him on request to fill out. No pictures will be accepted which were photographed on 35mm film and then reduced.

Contestants may enter as many subjects as they desire. One entry blank will cover all subjects placed in the contest by that entrant.

The Contest is open to amateurs and amateur clubs anywhere in the world.

The American Cinematographer reserves the right not to declare a prize for any classification, if in the opinion of the judges there is not a picture submitted sufficiently good to be classed as a prize-winner.

The American Cinematographer also retains the right to make duplicates of such prize-winning pictures as it may indicate for free distribution to clubs and amateur organizations throughout the world.

If you intend to enter the contest send at once for entry blank to

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